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ACUTA

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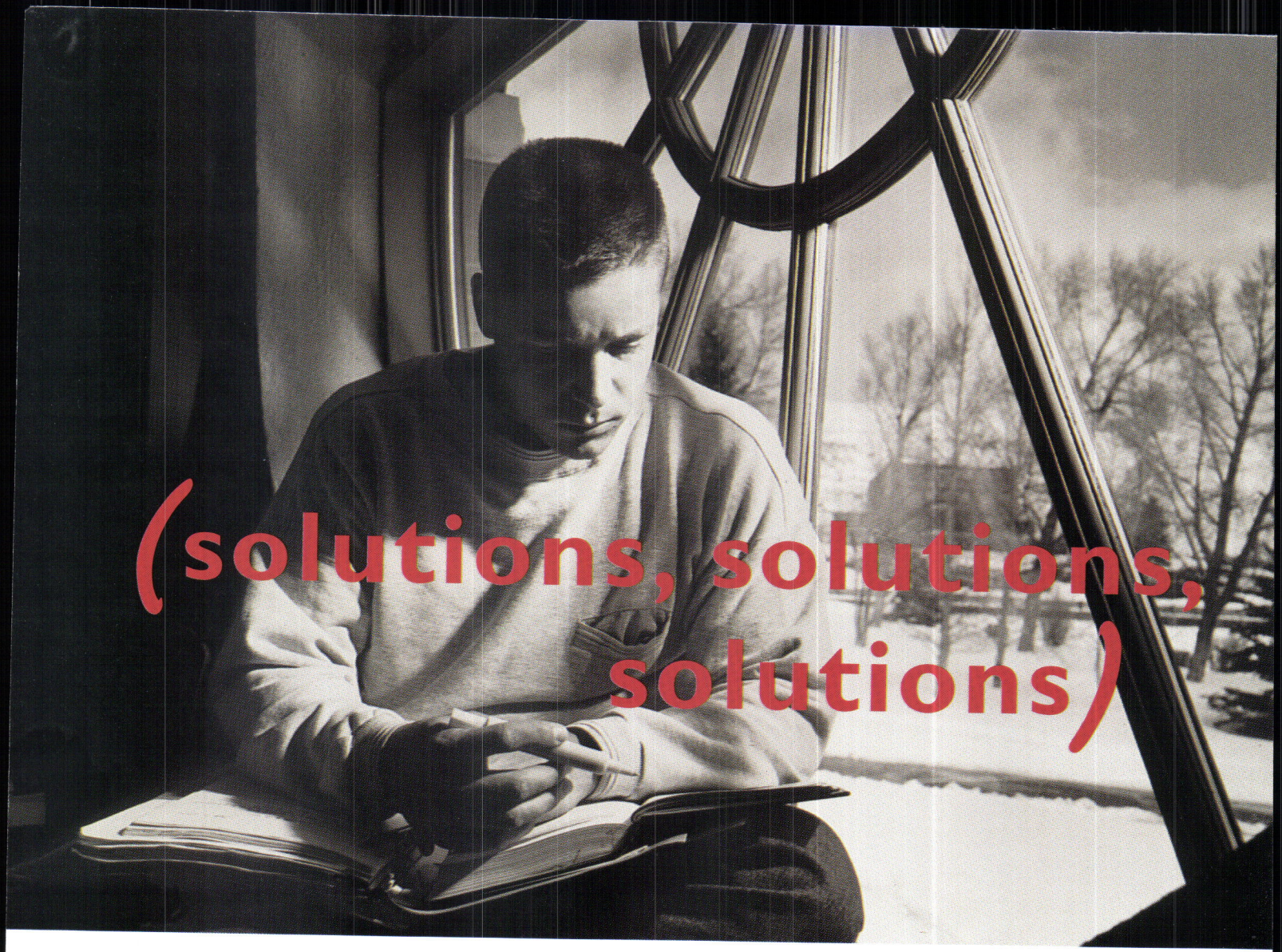
Focus on Legislative and Regulatory Issues



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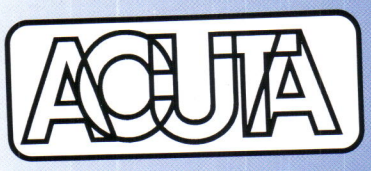

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ACUTA is a member-driven organization dedicated to the enhancement of teaching, learning, research, and public (community) service by providing leadership in the application of telecommunications technology for higher education.

ACUTA EVENTS CALENDAR

Spring Seminars
April 26–29, 1998
Cincinnati, Ohio
Westin Hotel
Track One: Technology Management Issues
Track Two: Disaster Preparedness & Facility Security

27th Annual Conference
July 12–16, 1998
San Diego, California
Marriott Hotel & Marina

Fall Seminars
October 11–14, 1998
Dallas, Texas
Le Meridien
Track One: Enterprise Networks
Track Two: Marketing Your Student Services and Campus Security Issues

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The ACUTA Journal
of Telecommunications in Higher Education

Volume 2, Number 1
Spring, 1998

Focus: Legislative and Regulatory Issues

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President's Message

Margie Milone

Kent State University

ACUTA President, 1997–98

At ACUTA's Winter Seminar in Tempe, we were privileged to hear many excellent presentations dealing with federal legislation and regulations that affect our campuses. As we evaluate the impact of the Telecommunications Act of 1996, the Universal Services Fund, and other important issues, we would do well to consider the messages delivered via audio conference by Dr. Carol Cartwright and Laila Van Eyck. Dr. Cartwright is president at Kent State University, a board member of the National Association of State Universities and Land Grant Colleges (NASULGC), and chair of the NASULGC Commission on Outreach and Technology Transfer. Ms. Van Eyck is assistant director of federal relations in higher education for NASULGC.

Each of us has responsibility for moving our department forward within certain parameters. But I believe that we can become more effective leaders if we slip outside our "box" from time to time and check the direction that our highest level administrators are taking. For this reason, I feel everyone can benefit from the presidential perspective that Dr. Cartwright and Ms. Van Eyck offered in Tempe. (I was especially interested because, of course, Dr. Cartwright is "my" president.)

Under Dr. Cartwright's visionary leadership, Kent State University is one of only thirty-seven institutions in the nation recognized as a Research Institute II by the Carnegie Foundation for its teaching and research excellence. In her remarks, Cartwright focused on the nature of the role of the president, and identified ongoing as well as current high-priority issues of concern on all campuses.

In describing how presidents organize and think about government relations, Dr. Cartwright suggested that the president must be a generalist who can set any personal specialty aside and rely upon the campus specialist to constantly monitor specific issues: The physical plant specialist must track OSHA and EPA requirements; telecommunications staff must track telecom regulations. She stressed the importance of constructing teams that include those with expertise in government relations and others from specialized areas. Aware of the many regulatory issues currently confronting the campus telecommunications staffs, Cartwright reiterated the value of professional memberships in interpreting and responding to important issues. She affirmed that campus presidents look to professional organizations to provide not only focus and guidance as they track issues at state and national levels, but also a voice to help maintain communications between the campuses and government.

"What are university presidents always interested in?" she asked, and then answered with one word: access. Mostly, she explained, this revolves

around student financial aid policies. Recently federal student financial aid programs have fared well, and with tax benefits kicking in this year for middle income students, there's a pretty good story to be told in this arena. But, she warned, "Federal issues are often double-edged swords. We're pleased with these new benefits, but we must acknowledge this is one more intrusion of government into the affairs of universities. So we track the pros and cons of such issues."

University presidents, whether they oversee a small community college or a multi-campus state university, must also track the relationship between the state and federal governments on an ongoing basis. For instance, welfare reform at the federal level is always of interest. Inevitably there are programs of assistance at the federal level that will be offloaded to the states. Many of these programs are entitlements, and the higher education budget is a discretionary item. Transferral of a major initiative means higher ed is vulnerable.

The president of any institution with a doctoral program or research mission will also want to track federal support for research through agencies such as the National Science Foundation, the National Institute for Health, and so forth.

Cartwright also identified a number of hot topics of current interest to presidents:

- National Commission on Cost of Higher Education
- Reauthorization of the Higher Education Act
- Affirmative action
- Issues related to information technologies

Ways You Can Get More Involved

1. Schedule legislative visits to your campus to show your delegation how you're using new technologies in teaching, research, and service. There is a huge learning curve to educate legislators regarding the use of new technologies in higher education.

2. Get involved in campus groups or committees on networking issues, telecom issues, intellectual property issues, the whole host of information technology issues. Your perspective is different from that of the business officer or librarian. The president often needs to consider a campuswide perspective, to understand everyone's position. You can help form and inform the policy of the institution.

3. Work with government relations and public affairs staff to develop articles, issue papers, or demonstrations that can communicate information technology issues and priorities in simple and straightforward ways.

—Laila Van Eyck, NASULGC

At the close of Dr. Cartwright's presentation, Laila Van Eyck described the role of NASULGC and its commission on information technology as it relates to the issues that ACUTA members might be most interested in, including:

1. The Higher Education Alliance on Information Technology Issues
2. Internet 2
3. Intellectual property and copyright issues
4. University liability as an online provider
5. Distance education issues

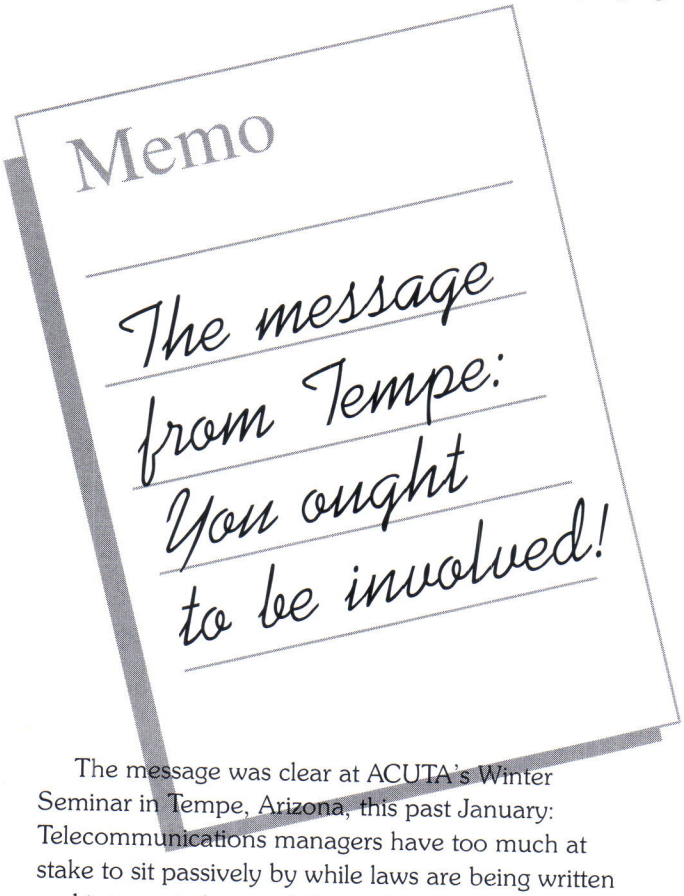
According to Ms. Van Eyck, through our professional association, "We have a voice at the table with some very key players such as Disney, AOL, and others...."

As you reflect on the highlights of this presentation, perhaps you can make an application to your own role as a leader and key player on your campus. Do you know what issues are high priority for your president? Is your own president focused on these issues? Is his or her awareness of the importance and complexity of these issues facilitated in any way by your own involvement? Have you stepped forward to assume responsibility for bringing your campus into compliance with the new rules and regulations?

When you read the articles in this issue of the journal, or in any learning situation, consider how you can apply information, not only from your telecommunications point of view, but also from a president's perspective. And remember, ACUTA is committed to helping you grow professionally.

Margie Milone

Who's Writing the Rules?



by Curt Harler

The message was clear at ACUTA's Winter Seminar in Tempe, Arizona, this past January: Telecommunications managers have too much at stake to sit passively by while laws are being written and interpreted around them. Speaker after speaker, ranging from private business representatives to a state utility commissioner to a university president, called for ACUTA members to share their expertise and assume an active role in legislative and regulatory matters—a new role for some ACUTA members, but a challenge that could pay off for the colleges they represent.

Jeffrey Deckman of SyNet presented his success story, detailing how a pair of telecommunications wire-pullers in Rhode Island were able to become registered lobbyists and change a repressive state law almost single-handedly. Deckman's saga began when Brown University was shut down in the midst of a cutover weekend. Inspectors said the job was not in compliance with a new state law requiring telecommunications contractors to be licensed at the state level. Although they got around the immediate problem by bringing a licensed electrician onto the site, the law threatened to close down all low-voltage operations. Deckman and his pal realized they would have to fight for their jobs and survival at the capital. At $10,000, hiring even a part-time professional lobbyist was out of the question. So, they paid $5 and filled in a form registering themselves to lobby at the state capital.

"Legislators are not subject-matter experts," Deckman said. Rather, he added, they rely on people like ACUTA's members to spell out in clear terms what they should do.

His assessment was echoed by Joan H. Smith, member and former chief of the Oregon Public Utility Commission and a trustee at Lewis and Clark, a small private college in Oregon. "You are the experts on telecommunications," she said, encouraging ACUTA members to get involved at all levels and provide input so that reasonable and equitable laws and regulations are passed.

Selling Programs

Being an effective advocate for telecommunications will take some sales ability. In the face of competition for the ears and minds of both lawmakers and college administrators, the ACUTA member who tries to effect change needs to have a good, solid sales pitch prepared.

Dr. Carol Cartwright, president of Kent State University in Ohio, gave telecommunications

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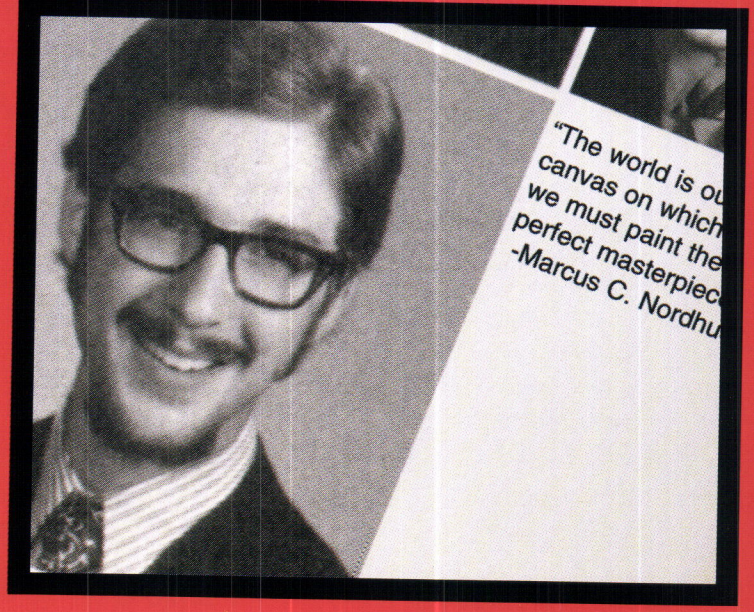

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managers some insight into becoming more effective salespeople, offering several tips on how the telecom department should present proposals when they want to improve systems. Forget about trying to sell the administration an "OC-3 ring" or "digitized campuswide voice mail," she said. Instead, use key buzz words like "access to education" or "better access to information technology" or "support for research efforts" to capture a university president's attention.

While university presidents tend to see *access* as meaning scholarship money, it is the kind of term that can be expanded to include distance learning projects or access for handicapped students.

Cartwright noted that many people feel colleges charge outrageously high prices for what they deliver and that ordinary people fear they will be priced out of the college market. "Colleges need to control costs," she said. Included in the rewriting of the Higher Education Act was a section covering regulations on electronic production of education. To succeed in getting a fair share of tightly budgeted money, she called for telecommunications managers to show value for the communications technology they propose. Eventually colleges may be required to do a corporate-style annual report showing the relationship between tuition prices and the cost to educate a student. Be prepared, she suggested, to make an argument that includes a cost/benefit statement.

> "I'm not trying to give you more work. But you have a role in educating the public."
>
> — *Paul Misener, FCC*

Noting that the idea of affirmative action is changing, Cartwright added that university presidents are looking for new ways to maintain diversity — including outreach to the older or rural student. Distance learning is perfect for those uses.

Laila VanEyck, assistant director of the Office of Federal Relations for the National Association of State Universities and Land-Grant Colleges, detailed how several education-related groups are working together and pooling resources to establish higher education policies for the digital age.

Chaired by Graham Spanier, president of Penn State University, whose goal is to get higher education to speak with a unified voice on the topic of technology for education, the Higher Education Alliance for Information Technology aims to influence lawmakers and regulators by participating in national debates on information technology policy issues. Members explain how choices influence teaching, learning, research, and community outreach.

VanEyck repeated Cartwright's call for telecom managers to take steps to remove barriers for the nontraditional students. Since President Clinton's budget includes funding to train displaced workers, a proposal for distance learning equipment to help meet that need is likely to receive warm attention both at the policy and at the funding level.

Telecommunications managers should work with their school's government relations and public affairs departments to schedule legislative and regulatory visits to campus to show how information technology is used and to give a nontechnical soft sell on what a school requires to function correctly, recommended VanEyck. She advised members to get involved in campus fact-finding groups delving into the Internet, telephony, and the like. "Your perspective will be different from a library director's or dean's," she noted. "Look for a common view, or agree to disagree. But be involved."

She also encouraged ACUTA members to work with the public relations and government liaison staffs to develop basic articles on technology that will help users understand the issues. She insisted that articles be nontechnical, otherwise the general audience will be lost.

Of course, successful lobbying requires involvement by the most knowledgeable members of the communications community — many of whom are ACUTA members.

Don't worry about appearing pushy or even uninformed as you search for information about some obscure proposal or the latest legislation. Organizations like the Federal Communications Commission (FCC) and state PUCs have extensive staffs in place to help inform and guide interested parties on issues. Staff members are key people to approach with lobbying issues.

"It seems to me there is a role for ACUTA members to educate faculty and students on how technology works," said Paul E. Misener, senior legal advisor and chief of staff for FCC Commissioner Harold W. Furchtgott-Roth. "You can't turn everyone into engineers, but they must be able to understand what is possible." He emphasized that it is not so important to know the how-to of technology, but it is vital that people be aware of what technology can do.

Even more than the popular perception of "convergence" of technologies is the increased flexibility of technology, Misener said. "Flexible technology is enabling flexible regulation. As a result, the Telecommunications Act of 1996 does what the old act could not," he said. The main goal of the act is to drum up competition.

As it implements the act, the FCC is faced with seeing all sides of the many issues they must regulate. "We can't always look at the benefits of regulations. We frequently forget to mention what a regulation might do on the negative side. My boss is an economist who wants to be sure the benefits outweigh the costs of any regulation," Misener said. Having input from individual ACUTA members, in addition to the host of professionals representing the telcos and manufacturers, will help the FCC obtain a balanced view of regulation.

Good Advice

Joan Smith of the Oregon Public Utility Commission and a trustee at Lewis and Clark College, made several suggestions for telecomm managers responsible for staying abreast of legislative changes:

1. Develop access to federal and state information, especially through personal contacts, mailing lists, and the Internet
2. Know the status and politics of issues at the federal and state levels
3. Use the resources of national associations like ACUTA and trade associations
4. Be a savvy consumer: identify telecommunications needs, aggregate demand, ask for competitive bids, and limit contracts to three years.

Universal Service Win

The importance of getting involved in the regulatory process was underscored just before the ACUTA Winter Seminar with a reversal of the Universal Service Fund decision. On December 30, the FCC handed down Ruling 97-420, a lengthy order addressing a number of petitions for reconsideration and clarification of its May 8, 1997, Universal Service order. Among the petitions addressed by the FCC was one filed by Sheldon Steinbach and Ken Salomon on behalf of ACUTA and interested groups like ACE, AACC, NASULGC, AAU, MiCTA, and others seeking clarification that colleges and universities should not be required to contribute to the Universal Service Fund a portion of the revenues they receive for ancillary and supplementary telecommunications activities, including dorm room telephone connections. According to the new ruling, nonprofit colleges and universities are *not* required to contribute to the fund, which was established to help defray the cost of such services to rural schools and libraries.

It is especially noteworthy that while the first draft of the order did not exclude higher education, it was an intense targeted lobbying campaign directed at the five FCC commissioners that turned the tide at the 11th hour.

Schools with associated public TV and radio stations also benefited. The FCC ruled that the stations are not required to contribute to the fund any portion of revenues generated by excess capacity and ancillary spectrum leases, as long as those revenues are less than 5 percent of the station's total revenues. However, Furchtgott-Roth was the lone FCC member to vote against the measure. "We did not see a need to rush to judgment," Misener explained for the office of Furchtgott-Roth. Many issues were unresolved, he continued, including the final version of a pending Senate report on the subject. In short, Furchtgott-Roth felt a need for more information, more input on the subject.

Emerging as Experts

Terming the complexity of regulation "shameful," Misener told his audience there will be more confusion before things get better. "You are the true experts," he said, begging ACUTA members to participate. "I'm not trying to give you more work. But you have a role in educating the public." Noting that the FCC gets thousands of e-mails and other comments on issues, he reiterated the need for experts like ACUTA members to become part of the process.

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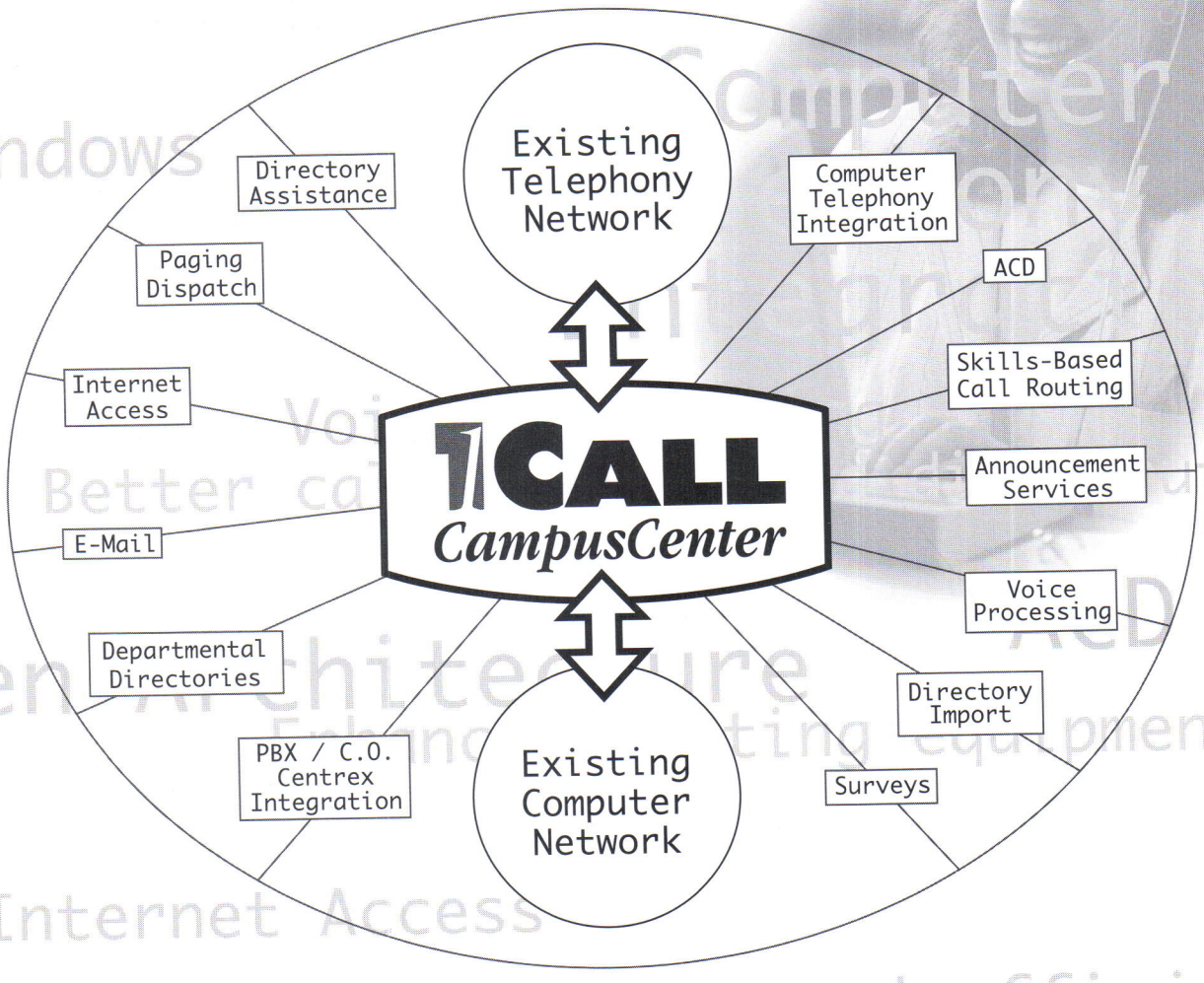

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Due to the scope of the 1996 Telecommunications Act and the long history of federalism in this country, the FCC will turn to state PUCs to help implement the provisions of the new law. Interconnection issues, like unbundling, pricing, and wholesale discounts; numbering issues, including parity and portability; certification of competitors; Bell entry into intrastate long distance under the contested Section 271; definition and certification of universal service regulations; complaints and matters of service equity all will fall under state PUC jurisdiction.

VanEyck noted that state governors pack clout in Washington, D.C. "They often agree with colleges and universities," she said, adding that both parties can advance their common goals by working together.

Smith noted that all 50 states have different approaches to how their PUCs are run and how many members participate, but all have similar goals: to assure fair regulation of utility industries, ensuring safe, reliable service to the public at just and reasonable rates through an open decision-making process.

In almost all states the PUC is a relatively independent part of the executive branch. PUC operations are subject to administrative law proceedings (the least strict branch of law). In states like Wisconsin and Nevada, the commission presides over cases. In California or Oregon, a real judge takes sworn testimony. Some states—like Ohio and Oregon—bring interested parties together in workshops to strive for resolutions to questions. This is a perfect opportunity for an ACUTA member to get involved in shaping policy. Most PUCs have regularly scheduled monthly or bi-weekly meetings.

Smith encouraged ACUTA members to lobby their PUC. "Anyone from the college/university community is welcome," she said, suggesting the PUC's Web site as the first point of connection. Rather than being snowed by the technical jargon of the orders and rules, look for press releases which explain in plain English what is intended by any PUC action. She noted that staff members are a good place to start to gather information or to express opinions on upcoming regulation. Smaller states have a staff which serves the whole PUC. In larger states, like California, New York, and Florida, each commissioner has a staff.

"You can educate the PUC staff on key issues and tell what your needs are. I just can't emphasize enough how important it is to get a good staff contact. Connect to a person. Continue the dialog," Smith said. "But don't upset the university's government relations person." Working as allies and pooling resources means you'll be playing the game with a stronger hand.

Learn by Doing

When Jeff Deckman walked up the steps of Rhode Island's capitol for the first time and plunked down his $5, he felt trapped. "If there were any way we could have lived with the new laws, I never would have gone the route we did," he acknowledges. Along the way to eventual success, he got several lessons in civics. They ranged from a short course in the capital basement on how to lobby legislators effectively to discovering that the old professionals would play every trick in the book to make their new-found enemy look bad, stupid, or unethical.

Calling it "fatal" for a lobbyist to lie to a lawmaker, Deckman advised the audience to "tell your side of the story as effectively as possible and make it incumbent on the other side to point out any weaknesses."

Variations on the theme of what happened in Rhode Island also happened in Massachusetts, Missouri, Minnesota, New Jersey, and Pennsylvania. For that reason, it is important to keep tabs on legislative and regulatory events around the country as well as in Washington, D.C.

However, Deckman emphasized, it is possible to fight city hall and win. Form an industry coalition, contact your legislators, show up in force (but don't be surprised if there is a move by the opposition to change the meeting date at the last minute). Be articulate and persistent, he advised. Remain optimistic. After all, he added, if two fellows can change the course of legislation in one state with a five-dollar bill and a solid commitment of time, so can anyone else.

Curt Harler is a freelance writer and contributing editor for ACUTA's Journal of Telecommunications in Higher Education. *Well respected for his insights into the telecommunications industry, Curt is also a frequent speaker at events across the country. He can be reached via e-mail at charler@mcimail.com.*

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by Paul Misener

Do the letters FCC conjure up in your mind's eye images of legal anthills—thousands of tiny lawyer ants with little ant briefcases scurrying through mazes of winding, twisting tunnels accomplishing tasks barely discernible to the human brain? When someone mentions the FCC do you run to the medicine cabinet for the aspirin—and call your lawyer on your way back? If so, take heart! The FCC's Internet site is here to help you understand and even participate in the workings of this vital government agency.

> Welcome to the FCC. The mission of this independent government agency is to encourage competition in all communications markets and to protect the public interest. In response to direction from the Congress, the FCC develops and implements policy concerning interstate and international communications by radio, television, wire, satellite, and cable.
>
> *—From the FCC homepage at www.fcc.gov*

Thanks to today's technology, interacting with the FCC no longer requires a law degree. A little quiet time with a mouse and a modem can put you in touch with the legal machinery that regulates our country's communications systems. Just go to www.fcc.gov. By moving from one user-friendly screen to the next, you can read the headlines, research the issues, and even put in your own two cents worth with any or all of the commissioners.

What is the FCC—really?

The Federal Communications Commission is an independent federal agency with direct reporting responsibility to Congress. The FCC was established by the Communications Act of 1934, and today continues the original charge of regulating interstate and international communications by radio, television, wire, satellite, and cable. In February 1996, President Clinton signed into law the Telecommunications Act of 1996. This Act was the first comprehensive overhaul of our Country's telecommunications rules in over 60 years.

The FCC is led by a panel of five Commissioners, who each serve five-year terms. The FCC reports to Congress, but each Commissioner must be appointed by the President, before being confirmed by the Senate. Only three Commissioners may be members of the same political party. One of

the five Commissioners is designated by The President to serve as Chairman of the FCC. The Chairman presides over all FCC meetings, and delegates management and administrative responsibility to certain persons within the FCC. Some duties are assumed by the Managing Director. Other functions are delegated by the Commission to staff units and bureaus.

The FCC operates through two methods of official action: meetings, and circulation. By law, the Commission must hold at least one open meeting per month. The process is open to the public, and the topics to be discussed are announced at least one week before the meetings. The Commissioners may also act between meetings by "circulation," a procedure by which a draft decision is submitted to each Commissioner individually for consideration and voting.

Meet the Commissioners

Four of the five commissioners—who are appointed by the President and confirmed by the Senate for five-year terms—have created their own homepages on the Web. (The fifth should be available soon.) Here's some of the information they provide about themselves:

- Chairman William E. Kennard states in his introduction that he is "committed to ensuring that competition will bring consumers in every sector of the communications marketplace more choice, better services, and faster innovation at the lowest prices," and that he is also determined "that all Americans realize the potential of communications technology to improve their lives." Kennard comes to the chairmanship after three plus years as the agency's general counsel and a career as a practicing attorney involved in a range of communications issues.

  Throughout his career, Kennard has advocated creating and expanding opportunities for small businesses and minority-owned businesses to participate in the communications marketplace. In the 1980s he served on the FCC's Advisory Committee on Minority Ownership in Broadcasting. The first African-American to chair the FCC, Kennard graduated Phi Beta Kappa from Stanford University in 1978 and received his law degree from Yale Law School.

- Harold Furchtgott-Roth: Prior to being sworn in last November, Commissioner Furchtgott-Roth was the chief economist for the U.S. House Committee on Commerce. He was a senior economist for Economists Incorporated from 1988 to 1995 and before that he served as a research analyst for the Center for Naval Analyses. Commissioner Furchtgott-Roth holds an SB in economics from the Massachusetts Institute of Technology and a PhD in economics from Stanford University. He is a member of the American Economics Association and the Econometrics Society.

- Susan Ness: On her homepage, Ness states that her "role is to safeguard the public interest by promoting competition throughout the communications industry and accelerating the availability of new products and services." Chosen as one of Electronic Media's "12 to Watch in 1997," the

commissioner actively promotes measures to introduce new technologies, spur new services, and expand economic opportunities. Prior to her FCC appointment, Commissioner Ness was a senior lender to communications companies as a group head and vice president of a regional financial institution. A lawyer by profession, she served as assistant counsel to the Committee on Banking, Currency and Housing of the U.S. House of Representatives, and founded and directed the Judicial Appointments Project of the National Women's Political Caucus.

- Michael K. Powell previously served as the chief of staff of the Antitrust Division in the Department of Justice. In that capacity, he advised the assistant attorney general on substantive antitrust matters, including policy development, criminal and civil investigations and mergers. Prior to joining the Antitrust Division, Powell was an associate in the Washington D.C. office of the law firm of O'Melveny & Myers LLP, where he focused on litigation and regulatory matters involving telecommunications, antitrust, and employment law. Powell graduated from Georgetown University Law Center in 1993. His experience also includes military service as an armor officer in the U.S. Army. He is the son of General Colin Powell.

- Gloria Tristani was the first woman elected to the New Mexico State Corporation Commission (SCC). She was actively involved in the enactment of legislation that allows the SCC to ensure that telephone companies comply with the law and enforce SCC orders and actions that promote the public interest. Under Tristani's direction, the SCC issued expanded area service regulations for the local calling area on certain toll calls and proposed standards for service quality. She also was an active participant on the National Association of Regulatory Utility Commissioners' Communications Committee, responsible for assisting in implementing the Telecommunications Act of 1996.

Commissioner Tristani received her law degree from the University of New Mexico School of Law and an undergraduate degree from Barnard College at Columbia University. In 1996 Tristani was named one of the nation's 100 most influential Hispanics by *Hispanic Business* magazine.

On all of the homepages, the commissioners provide access to their speeches and statements and information about their staffs, as well as biographical sketches and links to their e-mail.

A Bureaucracy? Well, Yes

Webster defines a bureaucracy as "government characterized by specialization of functions, adherence to fixed rules, and a hierarchy of authority." Is the FCC a bureaucracy? Yes, by definition.

There are six bureaus (including common carrier, wireless, international, mass media, and cable) and ten offices (including engineering and technology, general counsel, managing director, and public affairs) that report to the commissioners. Each of these bureaus and offices has three to seven divisions or individuals reporting to it. Each division has a staff of its own. But with the help of the FCC Web site, you can step back and take a look at the complexity of the agency by viewing a flowchart that depicts this hierarchy.

Through on-screen links, you may contact any one of these bureaus and offices concerning appropriate issues they may be handling:

- The Common Carrier Bureau regulates telephone and telegraph.
- The Mass Media Bureau regulates television and radio broadcasts.
- The Wireless Bureau regulates private radio, cellular telephone, pages, and the like.
- The Cable Services Bureau regulates cable TV and other services.
- The International Bureau regulates cable TV and other services.
- The Compliance and Information Bureau investigates violations and answers questions.
- The Office of Engineering and Technology evaluates technologies and equipment.

What's New?

If your main interest is in what's new, the Daily Digest provides a brief synopsis of commission orders, releases, speeches, and titles of public notices. It is published every business day and is usually available by 1:30 p.m. From the Web site, you can subscribe to the Daily Digest, and it will be e-mailed to you each day. In addition, this page features a link to the FCC Digital Index, a research tool that lets users search a database of Daily Digest entries for FCC documents posted since March 1996. For the frequent visitor who wants to stay in touch on his or her own timetable, the homepage provides a section called Headlines.

From the homepage you may also link to Updates (where you'll find Today's Daily Digest, Agenda

for Next Open Meeting, Open Meeting Dates, FCC Weekly Calendar, FCC Weekly Filings, and more), Hot Topics (Universal Service, Telecommunications Act of 1996, Bandwidth, Access Charge Reform, Local Competition, Disabilities Issues, North American Numbering Council, etc.) or Information (Consumer Information, Electronic Filing, Forms, Fees, About the FCC, Search Tools).

Come for a(n Electronic) Visit!

To make it easy for anyone to participate in this aspect of the governmental process, the FCC Web site also includes a section entitled Information on How to Participate in the FCC Process which includes links to: Where to Begin the Paper Chase, How to Tell Your NOIs from Your NPRMs, Now It's Your Turn: How to Comment, FCC's Exparte Rules, Daily Digest, FCC Internet Features, Sample Comment Cover, How to Get FCC Information Sent to Your Fax Machine, and more.

With the advances in communications technology of the past few years, government is no longer isolated from the people. If more people who have a stake in the results would participate in the process, our laws would more accurately and effectively reflect the will of the people. This statement is true for the FCC as much as any other branch of our federal government. We encourage you to lend your voice to the rulemaking process by accessing our homepage and taking advantage of a tremendous resource that's just a few clicks away from your own office.

Paul Misener is senior legal advisor and chief of staff to Commissioner Harold Furchtgott-Roth. Formerly the manager of telecommunications and computer technology policy for Intel Corporation, Misener is both an electrical engineer and a not-so-tiny lawyer ant.

Universal Access

Making electronic resources accessible to people with disabilities is the right thing to do—and it's the law.

by Sheryl Burgstahler, PhD

Jesse Anderson, who is blind, and Matthew Porter, who has a mobility impairment, cruise the Internet together in a University of Washington lab.

The varied features of the World Wide Web (WWW) make it an attractive vehicle for distributing campus information and providing resources to the campus community. Simple text-based Gopher servers have been replaced by multimedia WWW sites accessed with graphical browsers at rocket speed. This development has been good news to most Internet users—but not all. Consider that a visitor to your campus Web site might be:

- A potential student accessing Web services from home with a slow modem and the text-based Web browser Lynx
- An instructor who, because of a mobility impairment, has difficulty pointing to small objects with a mouse
- A student who has a learning disability that makes it difficult for her to read, especially when the screen is cluttered
- A retired professor who cannot see small characters on the screen
- A student for whom English is a second language
- A staff member who is deaf
- A student who is blind and uses a screen reader and speech synthesizer that only translates the text presented on the screen

Given circumstances such as these, what is your obligation to provide access to individuals with disabilities?

Legal Issues

Computing and telecommunications have become ubiquitous. The days of large equipment used only in specialized fields are over; modern technology is considered critical in most academic fields of study. Simultaneously, there has been a steady and dramatic increase in the number of students with disabilities enrolled in higher education. While estimates of the numbers of students with disabilities are self-reported and exact figures are not available, some estimate that number has increased 300 percent over the past 30 years and that now more than 10 percent of the student population have disabilities. Many more people with disabilities access campus resources as prospective students, parents, and participants in campus events.

Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 prohibit discrimination against individuals with disabilities. According to these laws, no otherwise qualified individual with a disability shall, solely by reason of his or her disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity of a public entity. Some state and local legislation imposes stricter requirements.

Qualified, with respect to post-secondary educational services, means a person who meets the academic and technical standards requisite for admission or participation in the education program or activity, with or without reasonable modifications to rules, policies, or practices; the removal of architectural, communication, or transportation barriers; or the provision of auxiliary aids and services. *Person with a disability* means any person who:

- has a physical or mental impairment which substantially limits one or more major life activities (including walking, seeing, hearing, speaking, breathing, learning, and working),
- has a record of such an impairment, or
- is regarded as having such an impairment.

Disabilities covered by legislation include (but are not limited to) AIDS, cancer, cerebral palsy, diabetes, epilepsy, head injuries, hearing impairments, specific learning disabilities, loss of limbs, multiple sclerosis, muscular dystrophy, psychiatric disorders, speech impairments, spinal cord injuries, and visual impairments.

The regulations do not specifically address the issue of access to computers on college campuses. However, the general mandates for providing access to programs and services apply to computing on your campus. The Office of Civil Rights and the courts have generally ruled that if the location or method of delivery limits the ability of a person with a disability to benefit from the program or service, then reasonable modifications must be made to provide access. True access to computing services involves not only providing an accessible facility and adaptive technology for computers. It also means that electronic resources should be provided in such a way that they can be accessed by people with disabilities using them on campus and over the Internet.

Providing access to technology is also the right thing to do. Technology can play an important role in increasing the independence, participation, and productivity of people with disabilities. The dramatic growth of adaptive technology makes it possible for anyone to access computers and the Internet. However, gaining access is not enough. The potential of the Internet to level the playing field when it comes to information access can only be realized if design features are employed that make sites accessible to a wide audience, including those using adaptive technology.

Unfortunately, few Web publishers consider the great diversity of potential visitors when they design their sites; they focus their attention on the average visitor.

Implementation on Your Campus

If universal design principles are employed, all visitors to your campus Web pages can access the content. Universal design concentrates on making information presented in documents, menus, graphics, video clips, and other materials accessible to everyone. Many potential access problems are avoided if you deliver information in multiple modes. If material is conveyed using audio or video files, provide text alternatives. If it is provided in graphical form, make sure a text alternative is available for blind users with voice output and others using text-based browsers.

Redundancy, consistency, and simplicity are keys to accessibility. Post a note prominently on your campus homepage indicating that you are committed to making your pages accessible to everyone and that you are interested in feedback. For example, the DO-IT (Disabilities, Opportunities, Internetworking and Technology) homepage at the University of

Washington includes the statement "The DO-IT pages form a living document and are regularly updated. We strive to make them universally accessible. You will notice that we minimize the use of graphics and photos and provide descriptions of them when they are included. Video clips are open-captioned, providing access to users who can't hear the audio. Suggestions for increasing the accessibility of these pages are welcome." Then, practice what you preach by employing universal design principles at your site. Below are some simple guidelines your campus can employ to make your World Wide Web pages accessible to visitors with a diverse set of characteristics.

• Screen Background and Layout

Keep your page backgrounds simple and make sure there is adequate contrast between the background and the text. People with low vision or colorblindness and those using black-and-white monitors may find it difficult to read information at sites with busy backgrounds that obscure text. Choose background, text, and link colors carefully and maintain high contrast. Access your site using a variety of Web browsers and monitors to test your choices.

Maintain a simple, uncluttered page layout throughout your site. Buttons, navigational links, and logos should always appear in the same places on each page. A consistent layout not only helps anyone visiting your site find information but is also especially important for people with specific learning disabilities, with visual impairments, and for whom English is a second language. (Figure 1)

Figure 1 Example of a poorly organized layout

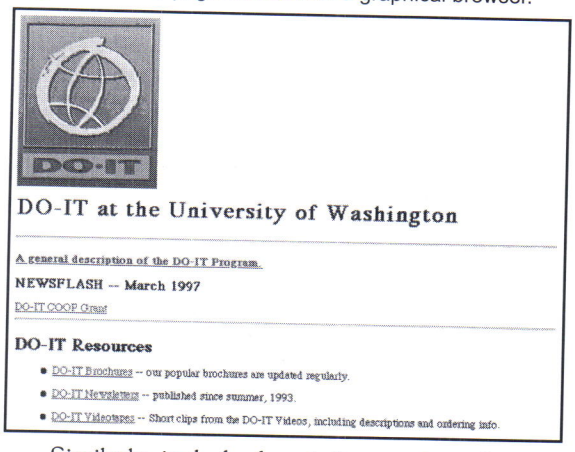
• Buttons

Make the buttons on your page large enough to be accessed by someone with limited fine motor control using a standard mouse or someone using an alternative input device because of a motor impairment. Larger buttons make selecting options easier for all visitors, especially those with restricted hand movements.

• Graphics and Special Features

Some visitors to your site cannot see pictures or drawings. This may be because they are blind, because they are using graphical browsers but have the feature that loads images turned off, or because they are using slow modems with text-based browsers such as Lynx. Provide alternative text for each graphic so that those who cannot view the image can access the information it provides. (Figure 2)

Figure 2 DO-IT page viewed with a graphical browser.

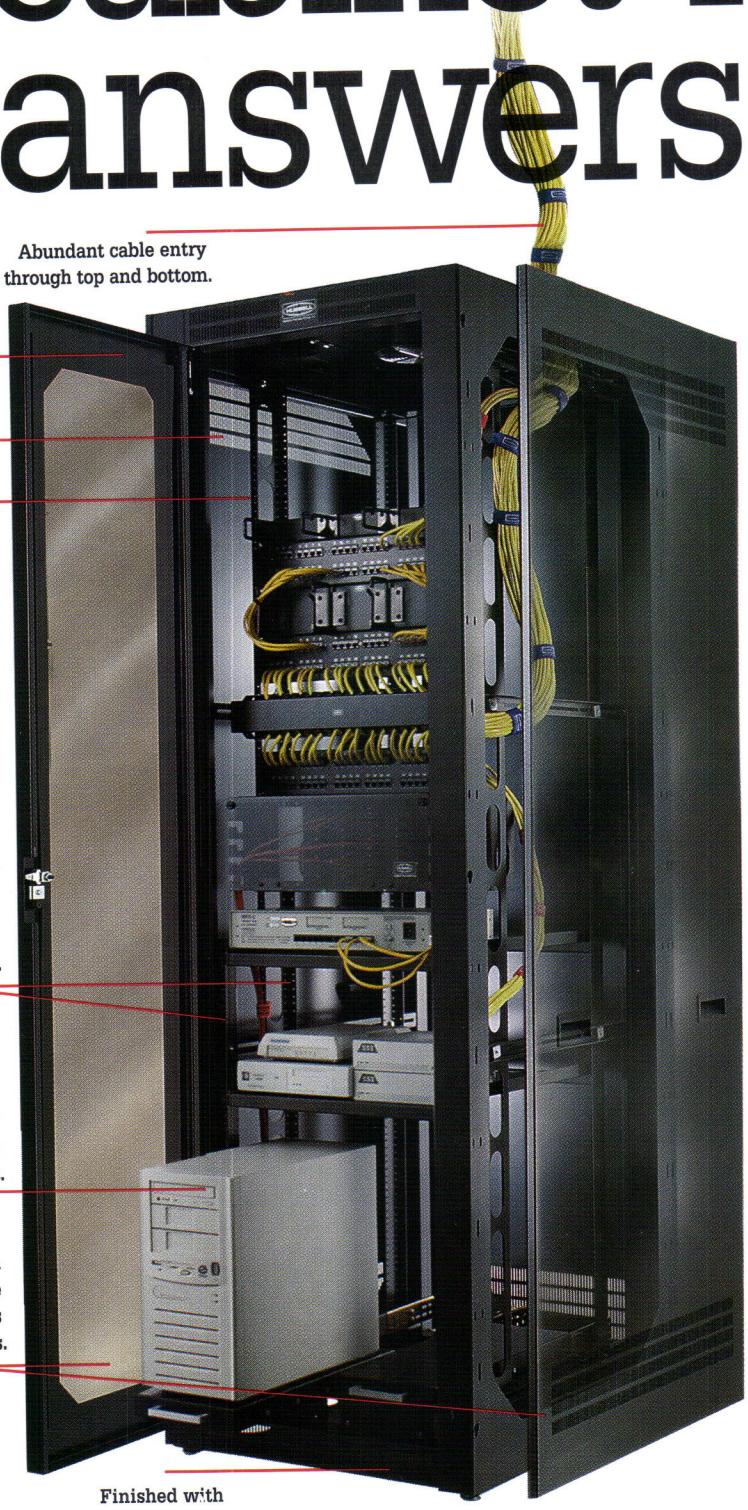


Similarly, include descriptive captions for pictures on your site and transcriptions of manuscripts provided in image format. Carefully word descriptions to provide concise, relevant information for the visitor who does not see the picture or manuscript included in the image.

Include a short, descriptive ALT attribute for each graphical feature on a page. The ALT attribute, which works with HTML image tags, allows descriptive text to appear on the screen and tell visitors about the appearance and content of the graphic. When sighted persons with graphical browsers access the page, they see the graphic; when blind persons or others using text-only displays access the page, they read the alternative text.

Provide text-based menu alternatives for image maps to assure that the links embedded in the image maps are available to those accessing only the text of the page. Image maps are graphics that contain multiple areas that, when selected with a mouse or other pointer, link you to another Web page or section. Anyone using a browser without graphics capability, those who cannot see images, and users who have turned off loading of graphics all benefit when you follow this guideline.

A cabinet full of answers.



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Most screen readers read from left to right, making information presented in vertical columns confusing to blind users; for this reason, consider alternatives to presenting information in tables. Similarly, frames, forms, databases, applets, plug-ins, and other special features can also be difficult or

Eric Patterson, a blind Web explorer, listens as text is read to him.

impossible to access by a person with a disability. Either avoid using them or provide a simple text alternative for accessing the information. If you cannot make some features accessible to everyone, direct visitors who cannot access the information provided through these features to an e-mail address for help.

• Link Descriptions

Make links descriptive so that they are understood out of context. Blind visitors who use screen reader software and speech synthesizers can set their software to read only the links on a page. It's important to them that the text in the links provide enough information when read without surrounding material. For example, "click here" does not provide adequate information for a blind user to determine if this is a link he or she wishes to pursue.

• Audio

If video clips or sound clips are used at your site, be sure to provide captioning and transcription for visitors who are deaf. For example, if an audio file contains a dialogue or song lyrics, present a transcript of the file on the screen. Also, audio within a video clip may contain information that should be provided in descriptive text form.

Test Your Site for Accessibility

Test your Web pages with a variety of Web browsers whenever they are updated. One of the test browsers used should be a text-based program such as Lynx. If possible, also examine your pages using browsers on different platforms (for example, Macintosh, PC, and XTerminal) and with color and black-and-white monitors. In addition, test your site for accessibility using Bobby."Bobby, created at the Center for Applied Special Technology, is an HTML validator program that tests for accessibility and identifies nonstandard and incorrect HTML coding. Bobby is located at http://www.cast.org/bobby.

When more campuses take care to assure that their Web sites adhere to universal design principles, a larger audience of Internet users will be able to make use of the wealth of educational resources on the Net. Make your campus electronic resources accessible: It's the law, and it's the right thing to do.

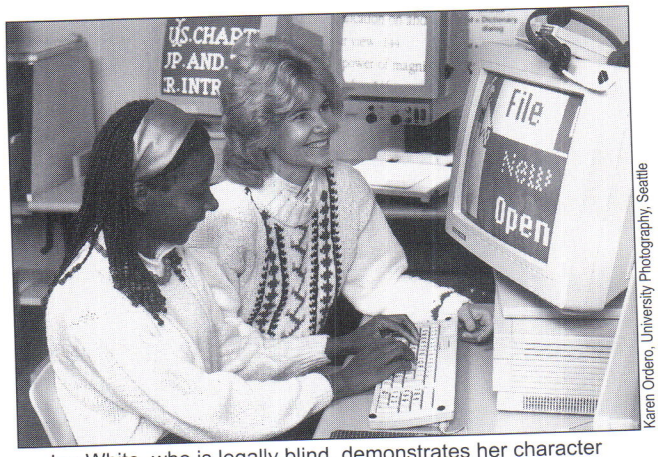
Sheryl Burgstahler is an assistant director of information systems for computing and communications at the University of Washington and directs project DO-IT (Disabilities, Opportunities, Internetworking, and Technology). DO-IT, primarily funded by the National Science Foundation, makes extensive use of adaptive technology, computers, and the Internet to help people with disabilities lead more independent and productive lives. Reach Sheryl via e-mail at sherylb@cac.washington.edu or http://www.weber.u.washington.edu/~sherylb.

DO-IT Resources

A videotape and handout about universal access of Web pages, *World Wide Access*, is available through DO-IT (Disabilities, Opportunities, Internetworking, and Technology). A good launching point to find resources for making accessible Web pages is the DO-IT HTML Guidelines page at http://weber.u.washington.edu/~doit/Resources/web-design.html.

DO-IT is primarily funded by the National Science Foundation. Additional funds for helping make electronic resources accessible to people with disabilities are provided by the Telecommunications Funding Partnership.

DO-IT was showcased at the 1997 Presidents' Summit on Volunteerism and has won numerous awards, including the 1995 NII Award in Education and the 1997 President's Award in Mentoring.



Karen Ordero, University Photography, Seattle

Jan White, who is legally blind, demonstrates her character enlargement software to Sheryl Burgstahler, DO-IT director.

DO-IT, University of Washington, Box 354842, Seattle, WA 98195. Voice/TDD (206) 685-DOIT; FAX (206) 685-4045; doit@u.washington.edu; http://weber.u.washington.edu/~doit

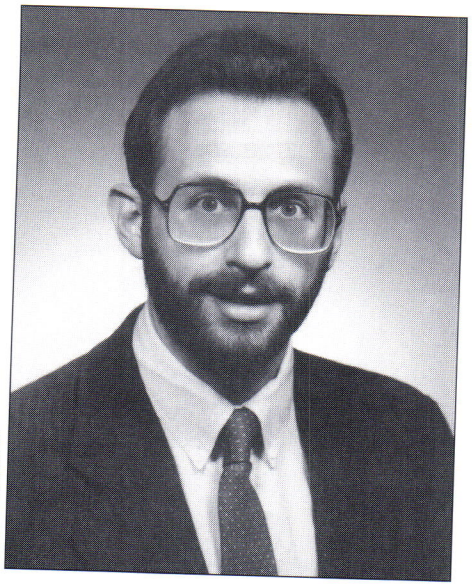


Photo by Chase of Washington DC

Interview

Jeff Linder: An Insider's View of Washington

At ACUTA's Winter Seminar in Tempe, attorney Jeff Linder of the Washington law firm of Wiley, Rein, and Fielding, spoke with publications chair Terry Robb from the University of Missouri at Columbia and publications committee member Dave Barta, University of Oregon. The following conversation provides some insight into the current state of affairs on the Washington legislative and regulatory scene.

Terry Robb: Our first question gets right into the thick of the issues: The Telecom Act of 1996 is on the books, or is it? What action is Congress taking, if any, to amend it, and what is the focus of such action? And what can you tell us about the Texas ruling that at least parts of it are unconstitutional? [*Note: On December 31, 1997, U.S. District Court for the Northern District of Texas ruled that restrictions on RBOC entry into in-region long distance were unconstitutional.*]

Jeff Linder: I think it's like Shakespeare said: lots of sound and fury signifying nothing. There isn't a lot that Congress is likely to do to amend the act. There's a lot of dissatisfaction with the slow pace at which local competition is developing and the fact that it's taking so long for the RBOCs to get into the long-distance market. I don't think Congress can get enough of a consensus, though, to actually pass legislation directed at either of those.

One area where they might do something is Universal Service [USF]. I think there's a lot of feeling that the FCC has not understood what Congress intended of it and has come out with these huge funds where Congress didn't really anticipate there being a tremendous amount of new money called for.

The Texas judge's decision took a lot of people by surprise. It may be stayed; it certainly is subject to appeal. I don't think it's going to be enough to spur Congress to act, though, for one reason: Senator McCain, chair of the Senate Commerce Committee, doesn't necessarily disagree with where the judge came out. I don't think he would agree it's the bill of attainder, but he wanted the Bell companies to get in quicker rather than later, and if this is the way to accomplish that, I don't think he is going to allow legislation to reimpose those requirements to get very far.

Dave Barta: USF provisions of the act call for the formation of a pool of around $2 billion to aid K-12 schools, libraries, and rural health care facilities with their ongoing circuit costs and upgrades to networks, including network hardware, wiring systems, and even parts of phone systems. It appears this fund is woefully small given the activity in K-12 to file to use it. What will be the result of this disparity: a higher assessment to create a larger pool? Actually, is the perception correct that that fund isn't big enough? Or will it be lower percentage subsidies to schools and libraries or some combination of the above?

Linder: I don't feel qualified to say whether it's sufficient as a practical matter. I can tell you it is more than adequate as a political matter, because there's only one direction that this will go, and that is smaller rather than larger. The FCC has already reduced slightly its estimate for the first quarter of '98 for how much needs to go into the fund. The FCC has said they just haven't had that much demand for it yet. With all the uproar in Congress about how much this is costing, the FCC is going to be under tremendous pressure to make the total assessment lower rather than higher. That may translate into less being available for schools, libraries, and rural health care.

Barta: Regarding USF and the recent interpretations,

what really happened? How were we included in the first place, and what really got us off the hook?

Linder: Let me qualify my response by saying that I have to base my answer on hearsay and third-party reports. As far as being included in the first place, the rules were written very broadly. They never mentioned colleges and universities specifically, but they did say that if you obtain services and provide them to third parties for profit, then you have to contribute. And that is something many universities do. When this became apparent, particularly in August when people were looking at a September deadline for filing their forms, a lot of colleges and universities were saying, "Well, this doesn't mean us, does it?" And unfortunately, the advice that I and others were giving as well was "I don't know that they intended to mean you, but that's what the rules seem to say."

At that point, I think ACUTA was tremendously effective at getting mobilized, joining with some of the other groups, and going to the FCC and saying, "Look, this is completely contrary to the purposes of the Universal Services Fund to promote education. Here you're taxing education." I know there were meetings held at the FCC, then finally in the order that was issued December 30 they did say colleges and universities don't have to pay since it would be, just as ACUTA said, contrary to the purposes of the act.

Now, of course, a lot of the carriers are saying, well, that's all very nice, but we're going to put a 4.9 percent surcharge on your bills for Universal Service which seems to be doing indirectly what the FCC said could not be done directly. That will be the next battle to fight, either individually between each carrier and each university customer or perhaps through further clarification requests of the FCC. But I do think, giving ACUTA its due, this was a sort of surgical strike by ACUTA and some other similarly situated associations to identify part of the rules that were just nonsensical and to get the FCC to act in a fairly short time frame to correct that.

Barta: Another question we have fielded lately deals with a ruling that institutions that have the ability to pass their caller ID number from the individual station out to the public switched network—like in my case if we have PRI trunking—if we have the ability to do that, we will be required to provide the ability for users inside our systems to selectively block that. Is this correct, and if so, what is the status of that?

Linder: I haven't followed this one extremely closely, but I believe that's correct. By March '98, if you have a PBX that's capable of passing the caller number identification, you have to comply with the per-call or per-line blocking rules. Most PBXs, as I understand it, cannot pass along that information. But if you can, you have until March to get into compliance. I don't know whether that is the subject of any reconsideration requests at the FCC or not, but that's the way the rules are written right now.

Barta: Despite the apparent intention of the act to create more payphone competition, it appears that deregulation is resulting in higher prices to make payphone calls even with the subsidy to payphone providers from 800 calls. Can you explain what happened here and what Congress or the FCC may do about it?

Linder: I'm not sure anyone can explain what happened here. In some industries, deregulation is followed by very quick rate increases. If you look at the cable industry in 1984, they were deregulated and cable rates shot through the roof. Look at the operator services industry: All this new operator service competition meant that people had the privilege of paying a buck a minute to make a call from a payphone. I think there will be a backlash just as there was in those two industries. After the cable rates went so high, Congress re-regulated cable; after the OSP rates went so high, Congress regulated OSPs. It's possible, if there is enough consumer uproar, that Congress will jump in again on payphones and you may well see some rate regulation coming back into play.

Barta: The Telecom Act requires that payphone providers be reimbursed for calls made to toll-free numbers from their payphones. Now that the FCC has set that reimbursement rate at 28.4¢ per call, should the owners of the 800 or 888 numbers expect to see all those charges passed on to them by the 800/888 providers and do they have any recourse?

Linder: Certainly the practice so far has been for the 800 service providers to try to pass through those charges penny-for-penny. In terms of whether there's a recourse, I guess there are a couple of points: The paging companies, who were hit very hard by this, have been simply blocking calls from payphones. The more that happens, the more we may see payphone owners deciding that maybe we don't need 28¢ a call. That may work itself out a little in the marketplace. I think another way to protect yourself is when you're negotiating these contracts—that's when you've got the most leverage. If you've got three or four vendors, make this an issue on the table. Ask, "What will you do about this surcharge? I don't want it passed through, and if you do pass it through, I want to see my rates even lower than they are now." When you already

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have an existing contract, you have no leverage.

Robb: One of the intentions of the act was deregulation of the local loop to allow local competition and, in turn, permit entrance of the RBOCs into the long-distance market. Some of the larger colleges and universities are wondering if they should consider becoming a CLEC. In general, how is competition of the local loop faring? Is there any real competition in the local loop that you know of? Are any of the RBOCs currently providing long distance or planning to provide long distance in the near future?

Linder: I think that in most of the major urban areas, particularly downtown business districts, there is not just emerging competition for the high-end customers but actually pretty vigorous local competition. In the residential market, it's a vastly different story. There is virtually no residential competition other than on a resale basis in a couple of places. And the economics of it are such that I'm not sure you're ever going to see real vigorous residential facilities competition develop.

My personal view is that one thing that will promote residential competition is actually letting the RBOCs into the long-distance market because at that point AT&T, MCI, and Sprint have an incentive to offer bundled packages of residential local and long-distance service. I'm not sure that's do-able from a political perspective. The FCC seems, right now, firmly against letting the RBOCs into the long-distance market until they fully open up their networks to competition. And the FCC has a very strict definition of what "fully opened up" should mean.

Are the RBOCs in the long-distance market today? Outside of their home regions, several of them are starting to provide service; in region, none of them is currently allowed to. There was the recent Texas decision that allows Southwestern Bell and Bell Atlantic and U S West to provide long-distance service. Southwestern Bell believes it can start in Oklahoma within the next few weeks. As far as I know, the others have not made any initial moves in that direction. I think it's likely to be several months at least before we'll see any of the Bells fully into the long-distance market.

Robb: What do you think about colleges and universities becoming CLECs?

Linder: There are clearly advantages to becoming a CLEC. It's probably a good way to lower some of your phone bills. The warning on that is that a lot of these real favorable rates aren't available for your own use. So if you're turning around and providing service to your students, is that for your own use or are you doing it as a carrier? Assuming you are doing it as a carrier, you could really lower your overall phone bills. You can be eligible for reciprocal compensation, which means you actually get paid for terminating calls for other carriers.

At the same time, there are some really significant drawbacks. You become regulated at both the state and the federal level. You have to start paying directly into things like the Universal Service Fund and Telecommunications Relay Service Fund, and it's still an administrative burden. There's a lot of paperwork that goes along with it, filing tariffs and things like that. So I really think whether it makes sense for any particular institution is going to require a pretty sophisticated cost/benefit analysis and also an assessment of how willing the institution is to put up with all the administrative hassle.

> [W]hen you're negotiating these contracts, that's when you've got the most leverage. Ask, "What will you do about this surcharge? I don't want it passed through, and if you do pass it through, I want to see my rates even lower than they are now."

Barta: Despite all the push to open telecom markets, and the notion that somehow open markets encourage competition and foster new businesses, it's unclear that there is any proliferation of new businesses. In fact, many industry analysts believe that the days of small ISPs are numbered and there will be large mergers and consolidations. Is this a surprise, is it accurate, and will Congress do anything to curtail it?

Linder: I think everyone anticipated there would be some degree of consolidation, some increase in mergers. I don't think anyone thought they would be this large, this rapid, and just this all-encompassing. Some of the largest names in the industry are joining forces. I think that a lot of these companies feel that if they're going to succeed in the future, they have to be able to offer everything under the same brand, under the same roof. So they all want to provide one-stop shopping. That's driving a lot of the vertical integration. For example, AT&T's proposed acquisition of TCG is really a vertical combination of a local competitor and AT&T as a long-distance provider.

There have also been several horizontal mergers like SBC/PacTel and SBC's proposed merger with SNET, where companies in the same market but in different geographic areas get together. That's really a matter of gaining certain efficiencies by consolidating

administrative functions. It also gives you more of a nationwide footprint, more brand recognition, maybe stronger marketing ability. I don't think the current Republican Congress would get involved. If things change in the fall and we have a Democratic majority, they might look at things a lot more critically.

But Congress isn't the only game in town. The Justice Department and the FCC are going to be much more actively reviewing these future mergers. They're really starting to get concerned that there is too much consolidation.

There will always be niche opportunities for new entrants, particularly nimble companies that can come in and identify opportunities and take advantage of them before the big guys get around to it. The pattern is that once these companies emerge and identify the opportunities and start going after them, they get bought up by the big guys, and it's up to someone else to come into the markets. So yes, I think there will always be a lot of small ISPs around, but more and more, even the Internet, which has been sort of uncontrolled chaos, is going to come more under the control of very few companies. Whether that results in regulation or not remains to be seen. That's going to be a huge step for the FCC to take. I don't think they have any desire to regulate the Internet. I think they'll only do so if they are forced into it.

Barta: My last question deals with E911. The state of Washington requires E911 compliance for PBXs now. They're required to pass ALI information. Oregon does not, and they have told me that they're not planning to any time soon. But what should we expect from the federal government in regard to requiring ALI information from PBXs?

Linder: I wish I knew—both in terms of timing and what they're going actually to require. This docket has been pending at the FCC for, I believe, three years already. Every time I inquire, they say a decision is imminent. I think they certainly want to have rules that require passage of ALI. We don't have any idea how burdensome those rules are going to be, whether they are going to apply if you have your own public safety organization on campus, if you still have to pass that information out to the network public safety answering point, how much all this is going to cost, if the equipment manufacturers are going to make these capabilities available on a timely and cost-effective basis... So it's pending at the FCC, and I don't think the FCC knows how they can accomplish their goal without being unduly burdensome on the user community.

Barta: Before we close, is there anything else that we should be watching for?

Linder: I think one potential dark cloud on the horizon is local number portability and the costs associated with that. We've all had real unpleasant surprises with the Universal Service Fund surcharge, with the PICCs, and the efforts to pass those through to users. I see the same thing happening with local number portability charges. It's going to be an expensive thing to implement, and I can see those showing up as line items on customers' bills.

Barta: You mentioned PICCs. It's been my assumption that that was going to be passed on to me as the end user. Is that not a valid assumption?

Linder: The way the FCC originally explained the PICC, it was going to recover on a flat charge per month the same cost that used to be recovered on a per-minute charge from the IXC and that was already built into the IXC's rates. So the way I see it, if they're just taking it out of the usage-sensitive per-minute charges and recovering it on a flat basis, the IXC isn't incurring any greater costs and therefore there's no reason to pass it through. It's already in the rates.

Conversely, if they do pass it through, they ought to lower their rates. I suppose the IXCs would come back and say yes, that may be so, but there are actually more costs being loaded onto the PICC and so there is justification to pass it through. It's not just what we used to pay before; it's more than that. This may be affected by an appeal of the FCC's access reform order and there'll probably be a decision on that in the first half of '98, so once again the word is stay tuned. The courts may step in and say they have to rethink the whole PICC idea. Or they may let the whole thing stand.

I think, certainly as a negotiating position, you ought to be able to go to your carriers and say, "You've got a choice: Either you don't pass through the PICC and keep charging me the same old rate; or if you do pass it through, you lower my rates by an equivalent amount." So if you're negotiating a contract for long-distance services, you definitely want to address this issue and get a bottom-line price from the carrier that very explicitly says whether they're going to try to pass through the PICC or not, and if they are, you want to ask them to sharpen their pencils on your per-minute rates. Try to make sure that whatever the rules are, they're clear in your contract going forward. And the best way to do that is to keep it competitive; keep as many vendors in the bidding as long as possible.

Jeff Linder was a principal speaker at the Winter Seminar in Tempe. For information about tapes of his and other sessions, see page 35.

Law, Libel, and the Internet

by April Sakaeda

The rapid expansion of the Internet and related computer services has led to the evolution of an unprecedented, unforeseen entity that lacks clear legal definition. Should the Internet be considered an electronic publication? Is the Internet merely a common carrier, like telephone lines or radio waves? What role does the service provider play? In creating a forum for speech, does the service provider act as a publisher, a distributor, or a common carrier—or something as yet undefined?

In addition, an estimated 40 million people in 160 countries use the Internet, making it the largest shared form of mass media. Under whose jurisdiction does the Internet fall?

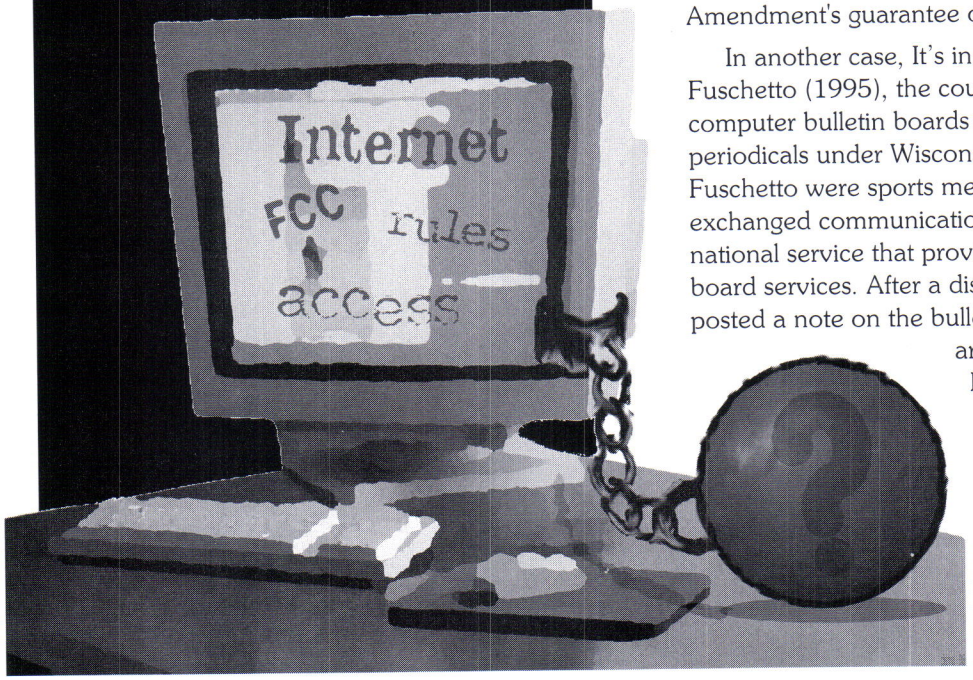
Legal Precedents

A number of cases have forced the courts to attempt to establish an identity for the Internet based on existing media.

In Daniel v. Dow Jones (1995), the court considered whether a computer news service was analogous to a newspaper. Mr. Daniel, a subscriber to Dow Jones & Company's service, requested a news report on a Canadian corporation. He purchased stock based on the report, but did not realize that the prices were Canadian dollars and as a result suffered losses. In his complaint, he alleged that Dow Jones negligently published false and misleading statements.

The New York Civil Court held that "the relationship ... is functionally identical to that of a purchaser of a newspaper." The court added that the right to the free flow of information precludes imposition of liability without proof of reckless disregard for the truth. The online service was "unquestionably within the First Amendment's guarantee of freedom of the press."

In another case, It's in the Cards and Meneau v. Fuschetto (1995), the court considered whether computer bulletin boards could be considered periodicals under Wisconsin law. Meneau and Fuschetto were sports memorabilia dealers who exchanged communications through SportsNet, a national service that provides e-mail and bulletin board services. After a disagreement, Fuschetto posted a note on the bulletin board about his argument with Meneau. Meneau filed a complaint, alleging Fuschetto's posting was defamatory.



Ultimately, an appeals court found the bulletin board was not a periodical, which was crucial to the libel test. It added that existing law was written to manage "physical, printed objects" and not computer services. "Consequently, it is for the legislature to address the increasingly common phenomenon of libel and defamation on the information superhighway," it concluded.

In Cubby v. CompuServe (1991), the court considered whether CompuServe could be held to be a publisher and thus liable to a higher standard in a libel action. Cubby alleged that CompuServe "published" false and defamatory statements about it on CompuServe's Journalism Forum. CompuServe carries more than 150 forum subscription services, consisting of electronic bulletin boards, interactive online conferences, and special interest group databases.

CompuServe argued that it served solely as a distributor of the forum. The court granted its motion for summary judgment, comparing the forum to an electronic library. "CompuServe has no more editorial control over such a publication than does a public library, book store, or newsstand," it concluded. It is important to note that CompuServe contracted an independent firm to provide the forum and did not review its contents before making it available to subscribers.

In Stern v. Delphi, the court considered whether Delphi's electronic bulletin board should be considered a news disseminator. The plaintiff, shock jock Howard Stern, brought suit against Delphi Internet Services Corporation because his photograph was used in an advertisement for Delphi's bulletin board service. Delphi argued that use of Stern's name and photograph fell within the scope of the "incidental use exception" applied to advertising. Because Stern was then a candidate for governor of New York, this made him a matter of public interest and the exception applied.

The court cited Cubby in determining that Delphi's online service was analogous to that of a news vendor or bookstore. The court held that the "desired and required" result was to afford protection to on-line services engaged in the dissemination of news. Although the court specifically avoided labeling Delphi a news disseminator, it allowed that the use of Stern's name and photograph should be given the same protection as "a more traditional news disseminator." Therefore, First Amendment protection applied. "The proper analogy is to a television network," the court concluded.

In Stratton v. Prodigy, the New York Supreme Court ruled that Prodigy served as a publisher rather than a distributor. This case involved an unidentified bulletin board posting on Prodigy's *Money Talk* service alleging fraudulent and criminal acts by Stratton Oakmont, an investment banking firm. Stratton's complaint included libel. In holding that Prodigy would be held to the standard of "publisher," the court relied on Prodigy's previous assertions of being a "family-oriented" computer network. Prodigy had specifically asserted that it exercised editorial control over bulletin board postings and likened itself to a newspaper. Bulletin board leaders could delete posts for "solicitation, bad advice, insulting, wrong topic, off-topic, bad taste, etc." However, during the suit, Prodigy insisted that its policy of reviewing messages was changed before the Stratton posting. ➤

Prodigy cited the CompuServe case (the service is the equivalent of a news vendor) in its defense. However, the court rejected this argument. Because Prodigy "held itself out" to the public as controlling bulletin board content, and because it used personnel and software to screen postings, the court found such choices constitute "editorial control." The distinction between CompuServe and Prodigy was that CompuServe did not claim or exercise editorial control.

In November 1995, Stratton dropped its $200 million libel suit in exchange for a letter of apology. It cited "the best interests of the parties as well as the on-line and interactive services industry." Stratton undoubtedly recognized the severe crippling effect its case could wreak upon the Internet.

These five cases each addressed "What is the on-line service?" Daniel found that the news service was like a newspaper and used that standard. However, It's in the Cards found the bulletin board service was not a periodical. The court in Cubby found the on-line service was not a publisher. Stern likened the service to a television network, but fell short of establishing it as a news disseminator. And the court in Stratton ruled that the on-line service was a publisher and could be held liable for defamatory materials.

Leave It Alone, It's Like the Phone

Prodigy argued in Stratton that it served solely as a passive common carrier of the bulletin board, much like the telephone company, and served as a passive information conduit. If on-line services were awarded common carrier status, they would enjoy the strongest protection against libel. Perhaps this is why Prodigy lawyers made this claim. Other freedom-of-the-Internet proponents have made similar claims in opposing regulations for the information superhighway.

In Anderson v. New York Telephone Company (1974), plaintiff claimed the telephone company was liable for libelous messages recorded on a machine it leased to a third party. These messages could be heard by anyone who called that party's telephone. The court held that there were "grave constitutional objections to the imposition of any rule of law which would require a telephone company summarily to terminate a subscriber's services because allegedly defamatory messages were being transmitted." But the court concluded the third party "had published the libel," but added that use of the telephone company's equipment did not render it a co-publisher regardless of whether it knew about such use.

If this conclusion can be extended to computer bulletin board services, this would attach liability to the writer of the libel (unknown in Stratton), but would leave the online provider unscathed. But is this a proper analogy? Are online services truly passive carriers?

The flaw in the argument of passive common carrier was Prodigy's lack of passivity. In instructing personnel to remove "offensive" messages, the company established editorial functions. Many on-line services exercise at least some editorial rights, including cutting off service. However, common carrier status would require equal access to all, and no editorial rights would be allowed. Anonymity, highly prized by Internet denizens, would most likely be stripped or lessened to allow identification of those responsible for computer libel and reduce liability to the service. It seems the best option for on-line providers in light of the Stratton decision would be to exercise no control whatsoever. However, the Communications Decency Act (struck down by the Supreme Court on June 26, 1997) provided protection to the provider only if it had taken "good faith" actions to restrict access to offensive material. Exactly how these restrictions might be implemented was not addressed.

In addition, common carrier status cannot be elected, but must be conferred by the FCC. It seems unlikely that the FCC will grant this status or that on-line providers would welcome the additional regulations that might result.

How Long *Is* the Arm of the Law?

With 160 countries linked to the Internet, and some seven million Americans across the nation subscribing to online computer services, under whose jurisdiction does the Internet fall?

In December 1994, Carleen and Robert Thomas, who ran a subscription "adult" bulletin board from their California home, were convicted of distributing obscene materials in interstate commerce. A Memphis postal inspector subscribed to their service and downloaded graphic sexual material. The couple was tried in Memphis federal court under Memphis standards. San Jose police had previously investigated and found they did not warrant prosecution. If the Thomas trial sets precedent, the most restrictive laws in the nation will govern the Internet in the United States.

The Communications Decency Act also attempted to regulate the transmission of obscene or indecent materials, as judged by "contemporary community standards." However, the Supreme Court ruled that such provisions abridge protected First Amendment speech. The Court noted that these limitations would invariably limit the free speech rights of adults.

Attempts to govern the Internet through local law have been less than successful. Ontario officials imposed a gag order on a sensational murder case,

only to have an Internet user create a Usenet group that discussed the case. Canadian services were ordered to delete the newsgroup, but Canadian Internet users still had access through servers in other countries.

Given the global span and breadth of the Internet, it also appears that prosecution would be logistically difficult, if not impossible.

Let It Flow

In free speech issues, the courts' overriding concern seems to be that the "flow of information" is not impeded by restrictions on on-line providers. Daniel stated that the computer news service should be treated as "unquestionably within the First Amendment's guarantee of freedom of the press." Cubby also mentioned the importance of First Amendment guarantees. And the court in Stern found that "Delphi's bulletin board, like a letter-to-the-editor column of a newspaper, is a protected First Amendment activity."

Despite the potentially damaging ruling in Stratton, it appears most courts are trying to apply the most liberal standards to Internet "speech." The Supreme Court's ruling on the Communications Decency Act (CDA) would seem to strongly indicate that federal intrusion on free speech rights will be rejected. However, states can still attempt to enact their own regulations. Georgia and New York have attempted to pass their own versions of the CDA. Both statutes were struck down.

John D. Faucher, writing in the *U.C. Davis Law Review,* advocates creation of a federal common law that would govern electronic defamation. He argues that this would solve jurisdiction problems inherent in interstate libel cases. However, federal common law does not currently exist. Federal common law also does not address the international scope of the Internet.

Law professor Laurence Tribe proposes a constitutional amendment specifically targeting electronic media, extending constitutional protections for freedom of speech and against unreasonable searches and seizures and deprivation of life, liberty, or property without due process of law "without regard to the technological method or medium through which information content is generated, stored, altered, transmitted, or controlled."[1]

Old laws simply are not effectively governing new technology and the resulting issues. As the court noted in Cubby, "Technology is rapidly transforming the information industry." The challenge now is to transform the laws.

April Sakaeda is a recent graduate of Northwestern University living in Park Ridge, Illinois. A version of this article was submitted for the 1997 ACUTA Student Paper competition and rated very highly by the judges.

[1] Laurence Tribe, "Proposed Constitutional Amendment," Electronic Frontier Foundation, ftp:\ftp.eff.org.

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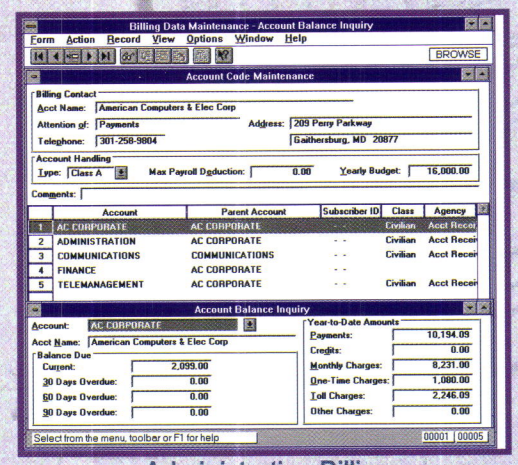

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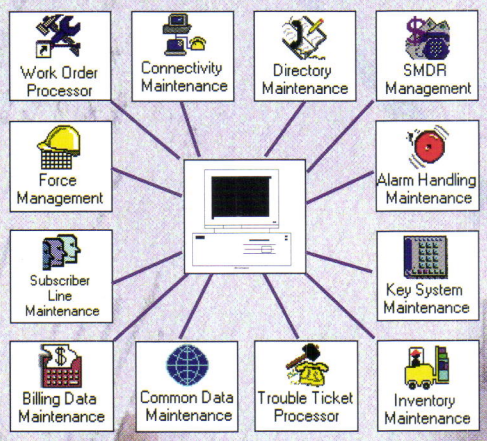

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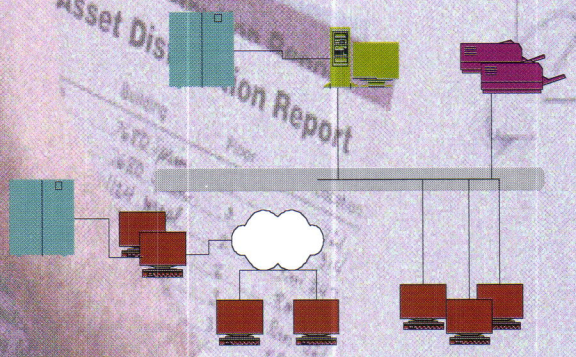

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Legislative Review

ACUTA's Legislative and Regulatory Affairs Committee looks at two years' worth of change

by Anthony Tanzi, RCDD

The following information is taken from opening remarks by Anthony Tanzi of Brown University and a panel presentation at ACUTA's Winter Seminar in January. Participating on the panel were members of the Legislative and Regulatory Affairs Committee, including: Tanzi; Beth Nolan Beal, Rochester Institute of Technology; Walter Czerniak, Northern Illinois University; Harry Kyle, Oklahoma State University; Anthony Mordosky, Bradley University; James Shea, Boston University; and Fred Wood, SUNY Buffalo.

Other members of the committee are Whitney Johnson and Howard Lowell, emeritus members; Ferrell Mallory, Brigham Young University; Ed Quinn, Ohio State University; and Doris Stock, Virginia Tech. ACUTA president Margie Milone of Kent State University and Jeri Semer, ACUTA executive director, serve as ex-officio members.

In my twenty-eight years at Brown University, I've witnessed lots of changes, some small and some not. Most of them have a common thread: Although they may have required intense effort, the net results were significantly positive for my institution, my work units, and myself. Divestiture is a good example. Each change resulting from divestiture seemed to require more effort to work through than its predecessor. In addition to a new telecommunications paradigm, we were dealing with emerging trends and technologies and trying not only to define those technologies but to explain their impact on the end users in our communities as we provided quality service. Yet each change presented an opportunity to build or expand links to our community and demonstrate that ours is truly a service industry.

In contrast, changes in our industry over the past year seem to have required more time and energy and resulted in a regression in services, increases in costs, and an almost schizophrenic approach by service providers when they attempt to communicate the impact of change to us.

Since the passage of the Telecommunications Reform Act of 1996, ACUTA's Legislative and Regulatory Affairs Committee has been extremely busy trying to synthesize the effects of the act as it applies to colleges and universities. Few of us would doubt that this act has had more significance than most of the other events affecting telecommunications. This single piece of legislation has dramatically increased the workload on our campuses, contributed to a sense of unease among telecommunications professionals across the country, and caused considerable distress for our university communities.

The act has also consumed a significant share of ACUTA resources in terms of time and people, and especially those who serve on the Legislative and Regulatory Affairs Committee. The behind-the-scenes work necessary to track, analyze, and distribute impact statements resulting from the act has been unprecedented in the history of our organization.

Legislative and Regulatory Affairs Committee

To put things into perspective, this committee includes fifteen members: the chair, eight members presently employed by a college or university, two emeritus members still very active in ACUTA although they have retired, the board liaison, and two ex officio members—the president and executive

➤

director. This indicates the workload that's expected of the committee on behalf of you, our members.

Our duties and responsibilities include monitoring and reviewing FCC regulations and legislative actions of the U.S. Congress. If, in the review process, the committee reaches a conclusion that intervention or comment on an issue on behalf of ACUTA is required, we submit the recommendation to the board for approval and action. If necessary, we secure legal representation to assist in the preparation of the documents and subsequent actions for filing the documents.

Key Issues

During the past year ACUTA has intervened in FCC issues on behalf of our members on several occasions. We helped educate our member community on issues affecting our colleges and universities, and we've taken positions on several major issues resulting from the Telecom Act. Here are some of the more public and significant issues that have demanded our attention:

- Caller ID rules for use in front of and behind PBX
- E911 and the potential impact on public safety organizations
- Internet telephony and regulatory issues
- Calling party pays, an issue sure to add operations and fraud worries to all of our jobs
- Local number portability, another cost and fraud minefield
- Payphone issues, including the collection of 28.4¢ per call to 800-number calling platforms
- Centrex/PICC (Primary Interexchange Carrier Charge) equivalency issue
- The Texas Court ruling regarding the Bell companies and long distance
- Universal Service Fund

All of these issues are important to all of us, but the potential of some of them to force us to rethink the way we function on our campuses cannot be underestimated. For example:

- Instructional TV fixed services: Bandwidth traditionally has been allocated to nonprofit and educational institutions for use in areas of low density population. This was a one-way medium—unidirectional video broadcast. It did not generate much interest. Now, there is a request before the FCC to allow this to become a true two-way medium. Those institutions which hold licenses already should follow this issue carefully because it will, if approved, open the potential for delivery of Internet services and other two-way media to remote locations using the existing facilities.

- Making E911 work in the PBX environment has been a challenge for years. The portion of the FCC's original notice of proposed rulemaking that dealt with the PBX environment addressed several areas of concern, including (1) delivery of PBX extension number and location of PSAP; (2) ability of PSAP to call back should the caller be disconnected; (3) ability of the PBX station to reach the 911 PSAP without first having to dial 9; (4) ability to simultaneously notify on-premise attendants or security personnel; (5) maintainence of the automatic location identification database; (6) methods to ensure that a minimum grade of service was maintained on all trunks. After comments and reply comments, the FCC is still considering what to do.

- Regarding the Centrex/PICC equivalency issue, the FCC ruled in favor of trunk equivalency after intervention by the ICA and Boston University. The FCC's new order reduces the amount of the PICC assessed on Centrex lines so that Centrex systems will be assessed PICCs in an amount that the FCC says is roughly equivalent to similarly sized PBX users. At this writing, we are recommending that you look carefully at these charges that some of the carriers are saying you should pay. Nowhere is it mandated that PICC charges be passed through to us, the end users, yet carriers are already asking customers to pay them. Many of us have contracts that are written to preclude carriers from charging us more even if federal regulatory fees increase. Check your contracts and don't assume that you automatically have to pay these fees. Also, if your present carrier has asked you to pay, shop around for a carrier that might not charge these fees.

- The decision that makes it easier for the Bells to get into long distance: The Texas Court ruling effectively relaxes the 14-point rule requirements that the Bells are expected to meet before they are allowed to sell long-distance services. This seems to set the stage for more Bell companies merging, forming the foundation for going "back to the future," just like the days before divestiture. For example, in the northeast, SBC Communications recently announced a $4.4 billion deal to buy Southern New England Telecommunications. SNET is a regional provider of local, long-distance, and wireless phone services. And AT&T recently offered to buy TCG which had just bought ACC. While changes like these may give us more opportunities, they also represent more challenges, and will require us to spend more time and effort doing our jobs.

- Universal Service: On this one issue alone since January 1997, at the request of the Legislative and Regulatory Affairs Committee, ACUTA has taken actions which have resulted in four alerts being sent

to ACUTA member institutions, advising them of the potential impact of Universal Service on their operations; in two formal requests to the FCC for clarification on rules and positions the FCC has put forth; and in an unprecedented collaboration with other professional organizations like the ICA, American Council on Education, American Library Association, National Association of State University and Land Grant Colleges, MICTA, and others. As reported by Kenneth Salomon, the attorney who filed the petition for clarification with the FCC for ACUTA and the other organizations, ACUTA, the Legislative and Regulatory Affairs Committee, and our executive director Jeri Semer played a key role in presenting our views to the FCC, helping to reach a successful conclusion to the issue of Universal Services and affirmation by the FCC that colleges and universities are not required to pay into the fund. Undoubtedly this will become the next challenge to ACUTA, working through the thought processes of the various IXCs who feel that we should be obligated to pay a fee that we are exempt from paying.

Conclusions

The judiciary is now so involved in the implementation of the Telecommunications Act that it may take years to work through litigious issues that are already in the courts. And there are more to come. The Telecom Act reverses separations between ILECs, incumbent cooperating companies, and interexchange carriers, and allows providers to offer local and long-distance service after certain conditions are met.

Unfortunately, nearly every rule the FCC has made to interpret the act has been met with a legal challenge. The FCC has passed orders on several main issues, all of which are in various stages of litigation. New interpretations have completely changed the rules. It almost seems that instead of one Judge Greene, we have a Judge Greene in every court in every state. What are the implications if everything is overturned?

Some feel that we are headed toward three to five very large communications companies that will own very large segments of the market and will take over completely the vertical market. CLECs just don't have the clout, or the entourage of lawyers. Where the intent of the act was to increase competition, it may actually have inhibited it. We would hope that the flexibility of the small niche companies would not be gone when they are bought out.

We recommend that you continue to access the ACUTA homepage, especially the legislative/regulatory section, to get the most up-to-date information affecting colleges and universities.

In the movie *Disclosure*, actor Donald Sutherland said, "May you live in interesting times." Can we say that we are prepared to live in these interesting times?

▼

Audio Tapes from ACUTA Winter Seminar

Audio tapes are available from the Winter Seminar on legislative and regulatory issues. Presentation titles and speakers are listed below. If you would like to order a set of tapes, contact Kellie Bowman at the ACUTA office (phone 606/278-3338 or e-mail kbowman@acuta.org). Cost per set (includes all sessions) is $75. Handouts are available separately at a cost of $15 plus $5 shipping.

Overview of ACUTA Legislative/Regulatory Issues and Activities ..... Anthony Tanzi, *Brown University*

Legislative and Regulatory Update ..... Jeff Linder, *Wiley, Rein & Fielding*

Higher Education Washington Overview ..... Carol Cartwright, *Kent State University;* Laila VanEyck, *NASULGC*

Telecom Act of 1996: Impact on Education ..... Paul Misener, *Federal Communications Commission*

Hot Legislative/Regulatory Topics Forum ..... Moderator: Anthony Tanzi, *Brown Univ.;* Harrison K. Kyle, *Oklahoma State Univ.;* Jeff Linder,*Wiley, Rein & Fielding;* Anthony Mordosky, *Bradley Univ.;* Frederick S. Wood, *SUNY Buffalo*

Trends in State Regulation ..... Joan H. Smith, *Oregon Public Utility Commission*

Licensing Telecom Contractors at the State Level ..... Jeffrey S. Deckman, *SyNet Inc.*

Contracting for Telecom Services/Acting as a CLEC ..... Jeff Linder, *Wiley, Rein & Fielding*

Congressional/FCCProcess ..... Frederick S. Wood, SUNY Buffalo; Harrison K. Kyle, *Oklahoma State Univ.;* Anthony Mordosky, *Bradley Univ.;* Walter Czerniak, *Northern Illinois Univ.;* James Shea, *Boston Univ.;* Anthony Tanzi, *Brown Univ.*

Regulatory Issues Potpourri ..... Beth Nolan Beal, *Rochester Institute of Technology;* Walter Czerniak, *Northern Illinois Univ.;* Anthony Mordosky, *Bradley Univ.;* James Shea, *Boston Univ.;* Anthony Tanzi, *Brown University;* Frederick S. Wood, *SUNY Buffalo*

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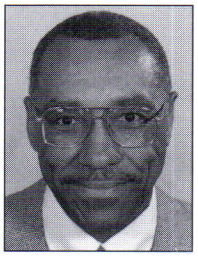

by James S. Cross, PhD

As we approach the 21st century, the LAN connectivity landscape continues to change dramatically with a proliferation of innovative products in the remote access arena.

The demand to provide secure and quality access to mobile users continues to fuel the growth for more functionality and security features in remote access gear. According to Dataquest, remote access routers accounted for over 35 percent of the $4 billion router market in 1995. In the same year, the number of LAN users worldwide topped 100 million, and the number of e-mail users eclipsed 40 million. As a result of this growth, remote access has become a commodity that can be made available economically to just about anyone, anywhere, anytime. Although the technology makes it economical and cost-beneficial to keep roving users linked, security risks continue to strain security systems in organizations both large and small.

RAS Products

Cheap and loaded with functionality, a whole new generation of remote access platforms has taken the market by storm. The idea of dial-up access is not new, and traditionally the technology has been slow and lacking the performance, application diversity, and robustness to which LAN users are accustomed. However, all that is changing as several major vendors expand their arsenal of products in this high-growth market segment.

The growing number of organizations establishing or planning to establish high-quality remote LAN connections has driven RAS vendors to roll out a new generation of scalable products with significant enhancements in functionality and the number of users that can be supported. For example:

- Livingston Enterprises has significantly extended the capabilities of its PortMaster line of remote access servers and concentrators. The new PortMaster 3 Integrated Access Server consolidates analog, T1, E1, 56-Kbps, ISDN, frame relay, and data compression services. The PortMaster 3 can support up to 60 simultaneous separate links with 4:1 data compression on ISDN and other PPP links.
- The new Ascend Communications line of MAX RAS routers fully configured can support up to 96 simultaneous sessions over a combination of analog, leased-line, frame relay, ISDN, or switched 56-Kbps circuits.
- Shiva's LanRover Access Switch reduces the number of lines coming into the central site by aggregating analog and ISDN BRI calls into T1/PRI lines, in addition to eliminating the need for stand-alone data service units (DSUs) and modems. To address the security concerns that come with remote access, the switch supports dial-back, challenge handshake authentication protocol, password authentication protocol, and Shiva's own Net Manager User List Server.

- Cisco's new 760/765 RAS product line for the small office/home office (SOHO) user is equipped with an ethernet interface, an ISDN BRI interface, and two analog ports that allow telephones, fax machines, and modems to share the dual channel ISDN BRI in addition to supporting supplemental telephone services such as call waiting, call hold, and call retrieval.
- Gandalf's new line of RAS products for SOHO users supports 48 simultaneous connections, two T1/ISDN PRI, and dynamic IP addressing, as well as PPP, multilink protocol, bandwidth allocation, and point-to-point tunnelling.
- Similarly, MicroCom's central-site remote access server is able to receive incoming requests from any of the supported links and route them to the desired destination across any supported link. Requests from remote and mobile users can be dynamically routed to the Internet, LAN segments, database applications, or other resources from the same dial-in connection. Remote and mobile users no longer have to dial different numbers or sites to access different resources.
- Bay Networks' Bay 8000 Remote Access Concentrator features an ethernet attachment, dual ISDN PRI/T1/E1 interfaces, and digital signal processor modems from U.S. Robotics and Rockwell capable of supporting 56 Kbps modem traffic.

There are two differentiating features of the new generation of RAS products. The first feature is a technology MicroCom Inc. calls adaptive switching. The technology requires less hardware and software to handle the same workload because of digital/analog circuit aggregation and the elimination of stand-alone modems and DSUs. The net effect is less hardware/software, more efficient RAS management, tighter security, fewer circuits, reduced operating costs, and a simpler migration path from today's predominantly analog dial service to tomorrow's principally digital ISDN dial service.

The second differentiating feature is the ability to minimize dial-up cost by breaking the connection when the remote user is not actively sending and receiving data, and automatically reconnecting when the line is needed.

Although there is a wide array of new products and services, determining which to buy to meet the security needs of your campus remote and portable computing users can be difficult and confusing. As a general rule, you must first analyze requirements, expectations, experience level of the remote users, and budget constraints, for there are many types of RAS products from which to choose. For example, there are high-capacity enterprise central-site switches (e.g. Bay Networks Bay 8000 series), SOHO mid-range/low-end servers that support a specific LAN environment and a limited number of dial up sessions (e.g. Cisco 765/766 line of routers), and finally, software-based products (e.g. Microsoft's Remote Access Services running under Windows NT Server and Apple's Remote Access Multiport Server/Remote Access Personal Server running under MacOS).

RADIUS Standard

Although several factors are contributing to vendor interest and growth in the RAS market segment, perhaps the most notable is the widespread acceptance of the proposed remote access dial-in user service (RADIUS) standard by Livingston, Inc., coupled with improvements in LAN infrastructure technologies, such as improved latency, class-of-service support, quality of service, and nonblocking connections. These developments and the adoption of the proposed RADIUS standard will, inevitably, change the rules of remote access connectivity and security management. New paradigms, standards, protocols, products, and services will evolve to define remote access quality now and in the future for mobile and portable computing. These new paradigms, standards, protocols, products, and services will provide the basis for enhanced anyone-anywhere-anytime-anyplace connectivity in the knowledge university of the 21st century.

RADIUS has become one of the most popular enterprise network authentication and verification options available to network administrators. It supports the major network security technologies (password, encryption, callback, filtering, profiling, authentication key, scripting, etc.) over telephone lines, ISDN, DSL, leased lines, or the Internet. Based on proposed industry standards, it offers a powerful system for the verification and authentication of remote dial-in users. As the growing mobile work force demands for connectivity increase, so will the demands for security tools to protect network resources from unauthorized access and hacking.

Network switches and edge devices that support the proposed RADIUS standard require users to be validated and authenticated before access is granted to the network. It simplifies the administration of remote and portable access by deploying security requirements on a centrally

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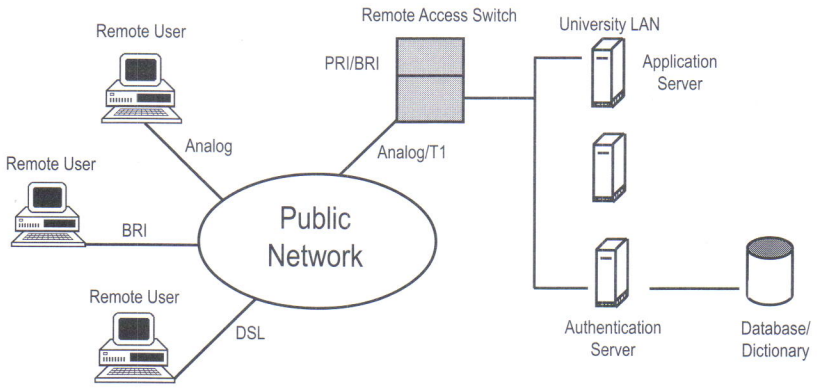
managed server that can be accessed enterprise-wide. It enables audit trails to be maintained and a series of security checks to be made on incoming connection requests to validate and identify the user, as well as determines routing information such as realm, destination, duration limitations, bandwidth, quality of service, application access, and database access, and conditions for permitting these options for each user. These parameters enable a series of profiles, filters, and scripts to be defined for managing and processing connection requests.

In the simplest implementation, the RADIUS distributed security system may be viewed in terms of five major components: client, RAS, authentication server, database/dictionary, and access protocols (Figure 1). When a client makes a network connection request, the RAS sends a RADIUS access-request packet to the designated realm authentication server with client name and password. The authentication server decrypts the request packet and looks up the name and password to verify it is correct. If the verification is successful, the authentication server returns a RADIUS access-accept packet specifying session routing, protocols, and operating requirements and limitations to the RAS for transmission to the client. If the verification is unsuccessful, the authentication server returns a RADIUS access-reject packet to the RAS for transmission to the client. To ensure that requests are not responded to by unauthorized hackers, the authentication server may also issue a RADIUS access challenge (instead of an access accept or access reject) which will be sent by the RAS to the client. The client must send the proper challenge response to the RAS, which forwards it to the authentication server in a second RADIUS access-request packet. If at any point during the sign-on or session duration conditions are not met or violations occur, the server sends a reject or denied access to the client and logs audit trail data. The RADIUS accounting options have been popular for tracking and recording remote access usage. This is an extension of basic operation of RADIUS.

Figure 1 Remote Dial-Up Service with Authentication



Benefits

The distributed approach to network security provided by RADIUS allows network administrators to use low-cost solutions to create an effective enterprise network defense perimeter and security strategy. The extensive filtering capabilities and security techniques available allow network administrators to customize and limit the type, direction, and amount of traffic that is allowed to enter the network or a particular node.

In addition to maintaining asecurity profile and accounting information, RADIUS is built upon a database of authorized uses, available services, and accounting and audit trail data. This is a particularly useful feature for networks that include more than one remote access communication node or modem pool. It is also fully open and distributed in source code format, which can be adapted easily for use with the major security system and communication devices available.

RADIUS is being widely used by colleges and universities to manage dial-up access to their campus networks from multiple points of presence by faculty, staff, and students. At Michigan Tech and a number of other institutions, it has been customized to work with the Kerberos security package for authenticating user names and passwords. RADIUS is used to manage and screen dial-up access from two Livingston Portmaster 2e remote access switches at Michigan Tech. A Cisco AS5200 universal integrated RAS server is being piloted for high-speed ISDN access.

The proposed RADIUS distributed security standard is also being widely used by ISP providers to provide security for users dialing into their network from multiple points of presence. The local ISP provider with which Michigan Tech has a partnership for dial-up access for faculty, staff, and students uses a Telebit MicroBlazer RAS switch.

RADIUS is not, in and of itself, a complete security system. Rather, it is part of a system that can employ firewalls and third-party token authentication. It should also be noted that RADIUS cannot make the RAS do anything more than it is capable of doing without

RADIUS— if the RAS cannot perform filtering, the RADIUS server cannot force it to filter.

Future

Although RADIUS was originally developed by Livingston, Inc. for their Portmaster line of remote access switches, it has been widely adopted by other vendors over the last four years. Livingston has submitted the RADIUS protocol specifications to the Internet Engineering Task Force (IETF) as a proposed standard for distributed remote access security. The IETF has established an official working group to produce a draft standard request for comment and review. The specifications are also being expanded by the IETF to include support for the major tunneling protocols: layer 2 forwarding, point-to-point tunneling, layer 2 tunneling, and IP security protocol.

Success in developing an effective RAS security strategy built around the proposed RADIUS standard entails integrating the key components of the security puzzle:

- Authentication to define the process of identifying the remote user and routing information
- Authorization to define where the user can navigate and access privileges
- Accounting to define the audit trail of events, resources available, usage tracking, and costs

Although widely supported, most of the dial-up security protocols, such as PAP, CHAP, dial-back, and key authentication, provide only pieces of the security puzzle. RADIUS, which continues to gain favor, seeks to tie all the pieces together to provide an integrated strategy for RAS security management in the world of the boundless office and workplace.

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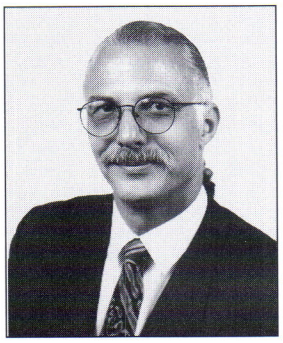
Technically Speaking...



The Consultant Selection Process: Defined, Described, and Demystified

Ray Horak
The Context Corporation

With this issue, we are pleased to introduce a new feature in the journal. Each issue will include the insights and expertise of one of ACUTA's consultant members, addressing a topic of importance to campus telecommunications.

What Is a Consultant?

Much like lawyers, consultants are a frequent target of comedians. The implication is usually that *consultant* is just a title to make someone looking for a job appear employed. This may be true sometimes, but for this column let's define consultant as an outside expert who is contracted to offer advice, accomplish a task, or otherwise labor on your behalf.

What Is the Problem?

Selecting a consultant is not your first step. You must first have a clear sense of the issue you are trying to resolve or the problem you are trying to correct. While this may seem patently obvious, the lack of problem definition is all too common. Beginning with careful situation analysis, the formula for success has never changed: Define where you are and determine where you want to be, if you have any hopes of charting a path to an effective solution. Sometimes the process of problem definition may even present the solution. Assuming that a consultant remains necessary, the next step is that of careful preparation.

Preparation: It's Your Nickel!

Once you've defined the problem, it must be documented in detail sufficient that an outsider can understand it clearly and quickly. In addition to technical issues such as platform requirements and operating environment, it may be appropriate to address budgetary limitations, support considerations, and the like. Management concerns and issues of corporate culture may be worth addressing as well. The more clearly you can communicate your requirements to the consultant, the more quickly and cost-effectively the problem can be addressed and resolved. Remember that consultants' fees are based on the scope and depth of the project as defined and contracted; poor preparation and poor communication cost dollars. The meter is always running—if you drive around in circles, you will pay dearly for that privilege.

Selection Process

Once you have identified the problem, described it in detail, and assured yourself that a consultant is required, you may begin the

selection process. At this point, it is absolutely necessary to define the sort of consultant you have in mind. These definition steps may seem tedious and repetitive but will save you both money and heartache—guaranteed! Definition includes at least the critical dimensions of technical skill and experience, track record, resources, survivability, style, and other immeasurables.

Technical skill clearly is an absolute requirement and may be satisfied at the most fundamental level by a sheepskin (e.g., EE). Other formal certifications (e.g., PE or CNE) may add to the comfort level. Ultimately, nothing speaks as loudly as experience. That experience optimally should be with the same systems, in the same operating environment, of the same size, satisfying the same applications in the same configurations, and so on. Further, both the range and depth of experience should be considered. It has been said that knowledge plus experience equals wisdom. In other words, applied knowledge tends to be worth the price.

Track record also is critical. I suggest considering only knowledgeable, experienced, and successful consultants. Those who fit that category will be glad to offer a reasonable number of client references for consideration. Again, those references should closely match your requirements in terms of dimensions such as operating environment, system configuration, and application.

Resources may have a bearing on your decision-making process, as well. Assuming that your budget permits and your project demands, you may opt for a resource-rich consulting firm. Smaller firms, on the other hand, often are more nimble and creative; however, they may require that you lend additional management structure to the project at hand.

Survivability considerations, critical for projects of long duration, address the consultant's long-term commitment to the business at hand and his or her ability to remain in business. Track record and resources are good indicators of survivability, although the past is not always a good indicator of the future.

Style and other immeasurables, while they cannot be quantified, may well be the most important element of the equation. Your organization has a culture which is based on a set of values, whether or not they are defined and formalized. A consultant must fit within that culture and must possess a reasonably similar set of values in order to work effectively with you, your staff, and management. Included within this range of values are work ethics. You want a consultant who works at least as hard and fast on your behalf as you do. You also want a consultant who respects the pressures of your world and who will meet your deadlines with a quality work product. Although it should be obvious, let's not forget honesty either.

Setting the Level of Expectation

At some point, you and the chosen consultant must set mutually agreeable levels of expectation. This process should begin with the RFI or RFP, assuming that the project is large enough to merit these formal steps. If not, this process should take place prior to the development of a formal contract for services. Included should be detailed descriptions of the problem, the intended result, the process to be employed, performance milestones, and the progress-reporting methodology. The rights and responsibilities of both parties should be defined. In the case of large, complex projects, a process should be defined for escalating and resolving difficulties.

Integrity and Honesty: Don't Leave Home without Them!

When you step outside of your organization for expert assistance, you are "leaving home." The culture you have created for your employees and the values you have instilled in them may not necessarily be shared by an outsider. Simple things like personal integrity and basic honesty, for instance, may be lacking.

By way of example, there are consultants who inflate travel expenses as a matter of practice. It's relatively simple to create a false invoice for air travel, using blanks provided by an unscrupulous travel agent. This invoice, at full coach fare, is then submitted for reimbursement, even though several business trips might have been combined or a personal trip might have been included, with the tickets having been purchased well in advance in order to yield the maximum savings. The consultant bills the client the full fare, pays for the inexpensive ticket, and pockets the difference. This practice is unethical and unfair—and patently illegal. Assuming that the invoice was submitted to the client by U.S. mail, the consultant has just committed mail fraud—a federal crime.

Even copies of legitimate tickets don't ensure your protection. Anyone can purchase a full-fare ticket, make a copy, and return it for credit; actual travel can then take place with a less expensive ticket.

Such things occur more often than you might imagine. While you might not even care if the consultant (or an employee) manipulates air travel to his or her benefit, the key issue is one of ethics. You have just been deceived. Can you trust someone who is so lacking in ethics? I don't think so!

The best way to avoid such problems is to deal with these issues up front. Approve all travel in advance. Make all arrangements through your travel agent. See that all airfare is billed directly to your account. Honesty is the best policy: Iit undoubtedly is *your* policy and should be the policy of all who labor on your behalf as well.

Managing the Relationship

Consultants and other personal services entities (e.g., attorneys and tax preparers) very quickly develop client control skills. While you must empower the consultant to act in your behalf, don't make the mistake of relinquishing full control over the project. After all, it's your job and your career that are on the line. Make absolutely certain that progress reports are regular and complete and that the lines of communication are always open in both directions.

It's Not Over Till It's Over!

Yogi Berra's admonishment applies—it's not over till it's over! The job's not complete until you are satisfied with the result. Assuming that you have followed these basic steps, the end result should be easy to measure—and should measure up! By the way, make sure that a considerable but reasonable percentage of the fee is withheld until the project is completed to your complete satisfaction.

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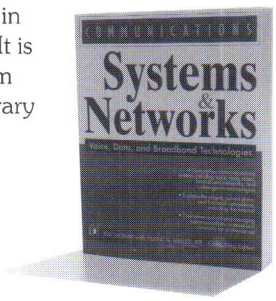
Communications Systems & Networks addresses the full range of voice, data, and video systems and networks, decoding acronyms and demystifying technologies in the process. It is available from Telecom Library (1-800-LI-BRARY), at Barnes & Noble and other major bookstores, and from the following Web sites: www.apdg-inc.com; www.amazon.com; www.barnesandnoble.com; www.flatironpublishing.com; www.hollisterassocs.com; www.insider-online.com.



Planning Lifecycle for OIT at the University of Minnesota

by Jodie Berg Combs

The Office of Information Technology (OIT) at the University of Minnesota uses a three-step planning lifecycle that includes strategic planning, performance measurement, and operational plans (Figure 1). The process provides a framework for effectively assessing our needs, evaluating our progress, and accomplishing our mission.

Working with colleges, departments, and central units, strategic planning points out our path for the future. Performance measurements check our progress, and operational plans set our pace. OIT repeats this cycle annually, incorporating the needs of the university community. We develop new products and services to replace old ones, continuously improving processes so that they are better, faster, and cheaper.

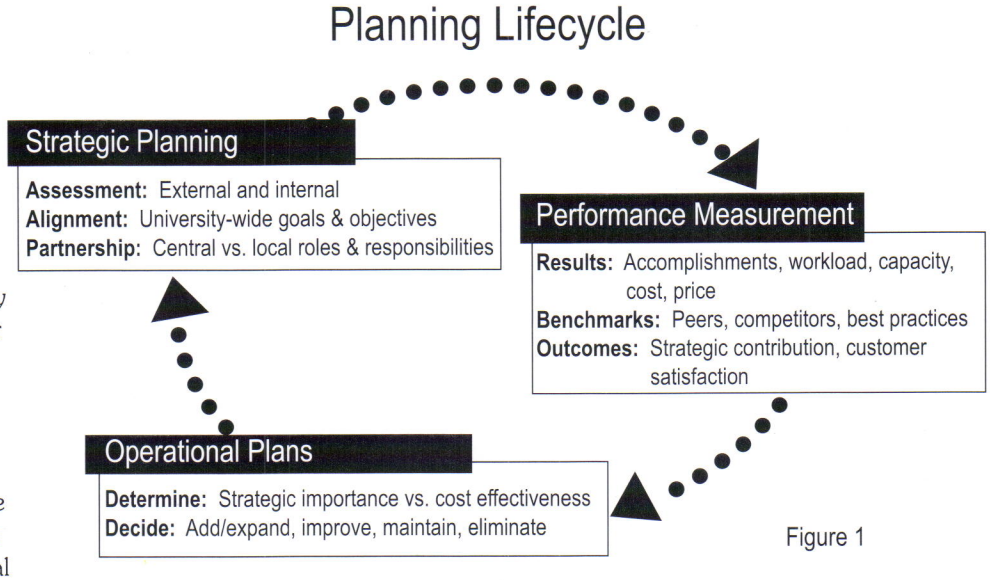


Figure 1

The Three-Step Planning Lifecycle

Step 1: Strategic Planning

Strategic planning involves assessing OIT's mission in response to changing needs and expectations, and redirecting our resources in order to meet collegiate and departmental needs. The new directions are determined by:

- Assessing external opportunities and threats and internal strengths and weaknesses
- Realigning the OIT mission to better serve university-wide strategic directions, goals, and measures
- Partnering with colleges and departments to develop complementary roles and responsibilities

In charting our course for the future, we review the university's goals and objectives, along with the needs of students, faculty, and staff. We also analyze industry trends, emerging markets, and enabling technologies in order to determine the most appropriate ways of meeting university goals and needs. Once new concepts are researched, developed, and tested, we can offer them to the university community as new products and services. The following example demonstrates how Networking and Telecommunications Services (NTS) evaluated emerging technology and moved theory into strategy and finally into full operation.

- August 1996: NTS conducted an evaluation of etherswitch technology and published a report stating observations, results, and conclusions. The evaluation focused on performance and basic functionality of the switches in a LAN emulation environment because of the direction of the backbone design at that time. Several scenarios were tested. NTS recognized that this new technology might aid in solving network capacity issues, with the introduction of ethernet switches

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and OC3c uplink modules. To sum up, there were issues associated with the new technology that needed careful planning and further study. NTS committed to stay current on all of the issues surrounding the switched world and consult with university networks in a close partnership to deploy this technology. (For details, see www.umn.edu/oit/newsletter/0896-itn/enet_switch.html)

• April 1997: NTS reported on twisted-pair ethernet repeater hubs, and among other items, noted that ethernet switching hubs, instead of repeating all information on each port, have individual ports with separate ethernet connectability. These hubs were made available for about $280 per port and were used at those sites needing increased bandwidth for each host. NTS was investigating which switching ethernet hub to recommend for attaching to the university backbone with normal ethernet channels (later ATM). These offer a couple of 100 Mbps ethernet channels for high-bandwidth server use within a department. (www.umn.edu/oit/newsletter/0497-itn/nts96_report.html)

• September 1997: NTS reported on the Jack at the Edges (EtherJack replacement), announcing plans to replace the 24-port shared ethernet hubs used in its EtherJack service. The hubs will be replaced with EtherSwitches that have 24 individually switched ports (our Switch 10 service) and a fiber-connected fast ethernet uplink to the University backbone. This is a big change for most users: *from* up to several hundred users per EtherJack LAN (shared ethernet) *to* each user having the full 100 Mbps ethernet bandwidth. EtherSwitch hubs provide university desktops additional reliability, security, and speed. (www.umn.edu/oit/newsletter/0997-itn/netupgrade.html)

Today, the replacement project is moving toward completion. We will be 80 percent complete by July 1998, 100 percent by July 1999. FY99 rates are currently under review. (www.nts.umn.edu/services/how/howhub.html)

Step 2: Performance Measurement

The performance measurement component involves regularly evaluating our performance in relation to quantitative indicators and qualitative expectations, summarizing the results in an annual report which includes:

- Our accomplishments compared to our plans
- Growth in workload and capacity
- Comparative costs and competitive prices
- Best-practice benchmarks and peer comparisons
- Customer feedback and satisfaction surveys
- Our contributions to strategic directions and critical measures

As an evaluation of current practices, the annual report asks and answers questions such as:

- Did we do what we said we were going to do?
- Did we do it better this year than last year?
- Was it worth the effort?
- Is it still important?
- Can anyone else do it better or cheaper?

The answers to these questions help determine the areas in which we should focus our efforts.

A good example is the NTS Accident and Injury Prevention (Safety) Program. Since its inception, this comprehensive program has been extremely successful, not only reducing injury frequency and severity rates but also significantly reducing worker's compensation costs. Minnesota OSHA and U of M Risk Management were partners in the planning process for this program.

This program was designed for the entire department's participation. The administrative and technical staff have been separated because of the risks associated with their jobs and for an element of competition. Each month, our mobile technical staff members participate in a safety meeting which is designed and prepared by the safety officer. The approach of the program adheres to the common safety principles of awareness and repetition (and repetition, and repetition…).

The safety officer emphasizes the subject matter's importance to employees' personal lives. Topics include slips, trips, and falls; asbestos training and re-certification; back injury prevention; safe driving; confined space entry; good housekeeping practices; and more.

The following statistics are based on the Minnesota Safety Council's reporting criteria. NTS is hoping for Minnesota Safety Council recognition this year.

	1995	1996	1997
Number of employees	100	124	113
Injury incidence	1.92	0.78	-0-
Frequency rate/ injury incidence	283.5	9.3	-0-
Severity rate/ worker's comp costs	$45,927	$4,004	$109

Step 3: Operational Plans

Our operational plans evolve from revisiting University goals in relation to our performance of current practices. By comparing the strategic importance of our traditional products and services with the cost-effectiveness of providing the service, we can determine which specific OIT services and support to add, expand, improve, maintain, or eliminate (Figure 2).

Given the critically important role of information technology in attaining the university's goals, it's essential to be flexible, adaptable, and creative in our technological investments. Should we be growing a

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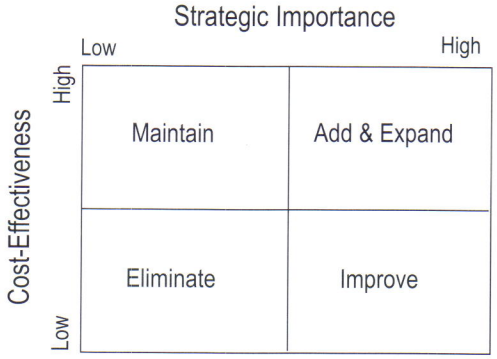
Figure 2 Measuring Cost-Effectiveness and Strategic Importance

Using this chart as a measure, we can determine the fate of any given project. If a project is both highly cost-effective and of high strategic importance, we will consider adding or expanding it. If a project is of high strategic importance but is not cos- effective, we must try to improve it. A project that is highly cost-effective but of low strategic importance may be maintained. Any project that is of low cost-effectiveness and low strategic importance should be eliminated.



particular service or "business" or have it go out of business? The answers will be based on supply and demand, capability and capacity, performance and price, mission critical ("must have") services versus less strategic/non-cost-effective (eliminate or outsource) services. Periodically evaluating our current operations provides us with information valuable in making reallocation decisions during times of retrenchment, allowing us to shift scarce resources to find cost-effective solutions for faculty and departments.

OIT's Strategic Initiatives

Last spring we published OIT's strategic initiatives—the new direction and goals we developed to meet the university's needs in a time of rapid technological change. In June, the university's budget-allocation process concluded, providing us with information about funds that would be available to help us achieve our initiatives, which are described below. Additional information about each initiative can be found at the Web address which follows each project.

1. Upgrade Network Infrastructure

OIT was to receive $4.1 million in nonrecurring funds for the modem pool and university network upgrades: routers, ATM switching, fiber plant. (www.nts.umn.edu/)

2. Modern Learning Environments

- Through internal reallocations, the Digital Media Center (DMC) would continue to collaborate, partner, and support collegiate and departmental academic programmatic and distance-learning initiatives.
- DMC and Academic and Distributed Computing Services would partner with collegiate units to train and support Web teaching assistants. (www.umn.edu/dmc/)

3. Administrative Process Redesign

Providing application and technical support, OIT was to continue to partner with the university enterprise systems projects, colleges, departments, and central units. The purpose of this project was to replace the university's student and human resource computer systems, to make the university's financial systems year-2000-compliant, and to provide a Web self-help, user-centered model of delivering services and disseminating information.

This project is also a vital part of the university's administrative reengineering efforts, which will streamline administration, allow us to make service improvements, and redirect resources toward academic programs. This is expected to be a $38 million project completed over the next three years. Funding comes from operations and maintenance central allocations as well as revenues from a partnership with IBM. (www.umn.edu/redesign)

4. External Partnerships

• The Governor's Virtual University initiatives are partnerships with the state of Minnesota, Minnesota State Colleges and Universities, and the Minnesota Career Education Planning Service (MnCEPS) of which the university, via OIT, is a participating member. The university has been allocated $1 million for the biennium in nonrecurring funds for these initiatives.

MnCEPS will be an Internet-based system of linked homepages that will provide students, job seekers, education planners, and others with up-to-date and user-friendly career and education planning information. Education, training, work force preparation, and career development data currently maintained by a wide range of state agencies and postsecondary institutions will be accessible through a single entry point, available to any Minnesotans with access to the Internet. (www.ot.state.mn.us/itbudget/itbudg.html)

• Partnering with the state of Minnesota, OIT has received $1.5 million nonrecurring, matching funds for the next biennium for vBNS (very high speed backbone networking service) and Internet 2 (next generation Internet). This funding is through Higher Education Systems/Metropolitan Education Technology. (www.umn.edu/oit/projects/internet2/index.html)

We believe we have developed a process that maximizes our efficiency and provides a pathway to success. We are proud that our planning lifecycle has been recognized both on campus and off as a workable model that will guide us well into the next century.

Jodie Berg Combs is coordinator for OIT planning, architecture, and communications at the University of Minnesota.

Jeri A. Semer, CAE

From the Executive Director

In an era of de-regulation and reduction of government, it is truly amazing how much time and energy ACUTA's Board, committees, staff, and members are spending on understanding and complying with the maze of new regulations—including, primarily, the FCC's May 7, 1997 Orders on Universal Service and Access Charge Reform.

Based on attendance at ACUTA events and discussion on the listserve, this is an area of major concern for members who are expected to interpret these complex regulations and predict the financial and policy implications for their schools.

The U.S. Congress created the Universal Service Fund (USF) for the purpose of providing subsidies for telecom services to K-12 schools, libraries, rural health facilities, low-income and high-cost areas. The subsidies are to be supported by telecommunications carriers, which are required to contribute a percentage of their revenues to the USF.

On December 30, 1997, the FCC ruled that non-profit colleges and universities are not "carriers," and are exempt from contributing to the USF. However, within days, the carriers declared that they would be passing the Universal Service charge through to their business customers, in order to recoup their own required contributions.

At the same time, the IXCs began passing along new per-line access charges that were created under the FCC's Access Charge Reform Order. In some cases, both charges began to appear on invoices during the same month, creating confusion among customers and their carrier account teams. In the final analysis, it is Access Charge Reform, not Universal Service, which may have the greatest financial impact on the majority of business telecommunications users.

Some carriers scrambled to implement these new charges so quickly that even their account teams were not fully aware of how the new charges were calculated. This added to the confusion. Some invoices were unclear and inaccurate, with little if any explanation for these major new charges—labelling as "miscellaneous" a charge which, in some cases, exceeded $20,000 per month! It is unfortunate that this situation has placed some member institutions and telecommunications companies in an increasingly adversarial role.

We acknowledge that the higher-education marketing teams from our carriers did not create these regulations and company policies. Yet, they bear the brunt of frustration from telecom managers who see huge increases in their telecommunications costs—which must be explained to higher level administrators and our "customers," the students.

Universities are not alone in their concerns about access charges. Many business groups are appealing to the FCC and Congress, calling for a re-examination of the entire access-fee structure. The FCC is currently looking at this, and committees in both the U.S. Senate and House of Representatives have scheduled hearings in the next few months.

As this issue of the journal goes to press, ACUTA continues to work through the intricacies of access charge reform, talking almost daily with carriers, attorneys, and members. The situation is highly complex and still in a state of change. However, we can report some good news.

At least one carrier has agreed to roll back its initially very high monthly access charges, and base its actual charges on more accurate information supplied by the customer. Another carrier is holding off on imposing per-line access charges, opting instead for a reasonable per-location charge. (This may change in the future, but at least for now this is a customer-friendly policy.) And at least one Local Exchange Carrier says they will not bill the IXCs, and therefore the IXCs should not bill their customers, for lines behind a PBX. The bad news is that these interpretations tend to vary depending upon who you talk to. We are waiting for confirmation in writing.

We are also aware of some smaller long-distance carriers which are not passing one or both of these new charges along to their college and university customers. We hope that the industry will take notice, and recognize the marketing advantage of such a position.

ACUTA is firmly committed to continuing our advocacy for member institutions and their students. In addition, we appreciate the skillful efforts of ICA and its attorney Brian Moir, as well as several higher-education associations, for their efforts on behalf of the community. We also appreciate the advice and counsel of Washington attorney Jeff Linder, who is a consistent supporter of ACUTA.

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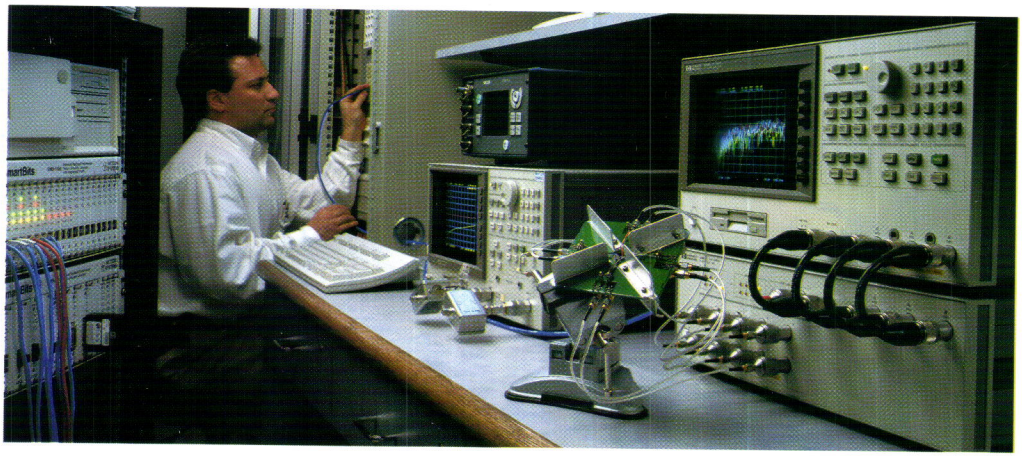

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